

U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

STATEWIDE LONGITUDINAL DATA SYSTEMS

CFDA # 84.372A

PR/Award # R372A090052

Grants.gov Tracking#: GRANT10076319

OMB No. 1890-0004, Expiration Date:

Closing Date: SEP 25, 2008

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter c (for example, c1, c2, c3, etc.).

Application for Federal Assistance SF-424

Version 02

| | | | | | |
|--|----------------------------------|--|---|---|--|
| * 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application | | * 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision | | * If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify) <input type="text"/> | |
| * 3. Date Received: 09/25/2008 | | 4. Applicant Identifier: <input type="text"/> | | | |
| 5a. Federal Entity Identifier: <input type="text"/> | | | * 5b. Federal Award Identifier: <input type="text"/> | | |
| State Use Only: | | | | | |
| 6. Date Received by State: <input type="text"/> | | 7. State Application Identifier: <input type="text"/> | | | |
| 8. APPLICANT INFORMATION: | | | | | |
| * a. Legal Name: Georgia Department of Education | | | | | |
| * b. Employer/Taxpayer Identification Number (EIN/TIN): 58-6002042 | | | * c. Organizational DUNS: 8067431590000 | | |
| d. Address: | | | | | |
| * Street1: | 205 Jesse Hill Drive, Suite 2066 | | | | |
| Street2: | <input type="text"/> | | | | |
| * City: | Atlanta | | | | |
| County: | Fulton | | | | |
| * State: | GA: Georgia | | | | |
| Province: | <input type="text"/> | | | | |
| * Country: | USA: UNITED STATES | | | | |
| * Zip / Postal Code: | 30334 | | | | |
| e. Organizational Unit: | | | | | |
| Department Name: Office of Technology Services | | | Division Name: Information Technology | | |
| f. Name and contact information of person to be contacted on matters involving this application: | | | | | |
| Prefix: | Mr. | * First Name: | Travis | | |
| Middle Name: | <input type="text"/> | | | | |
| * Last Name: | Willard | | | | |
| Suffix: | <input type="text"/> | | | | |
| Title: | Deputy Superintendent/CIO | | | | |
| Organizational Affiliation: Georgia State Department of Education | | | | | |
| * Telephone Number: | 404-657-0810 | Fax Number: | 404-651-6867 | | |
| * Email: | twillard@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:

84.372

CFDA Title:

Statewide Data Systems

*** 12. Funding Opportunity Number:**

ED-CRANTS-062608-001

* Title:

Statewide Longitudinal Data Systems Grant Program CFDA 84.372

13. Competition Identification Number:

84-372A2009-1

Title:

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

State, State Agencies, School systems, and surrounding states.

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

Chronicle ??? A Data Clearinghouse for Georgia???'s Public Education System

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

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

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

| | |
|---------------------|--|
| * a. Federal | <input type="text" value="9,032,128.00"/> |
| * b. Applicant | <input type="text" value="0.00"/> |
| * c. State | <input type="text" value="8,942,640.00"/> |
| * d. Local | <input type="text" value="0.00"/> |
| * e. Other | <input type="text" value="0.00"/> |
| * f. Program Income | <input type="text" value="0.00"/> |
| * g. TOTAL | <input type="text" value="17,974,768.00"/> |

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

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

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

Yes No

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

** I AGREE

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

Authorized Representative:

Prefix: * First Name:
 Middle Name:
 * Last Name:
 Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* 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: 1890-0004

Expiration Date: 06/30/2005

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 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 2. Fringe Benefits | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 3. Travel | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 18,600 | \$ 213,000 |
| 4. Equipment | \$ 314,916 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 314,916 |
| 5. Supplies | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 6. Contractual | \$ 1,986,500 | \$ 2,030,500 | \$ 2,057,800 | \$ 1,812,100 | \$ 527,824 | \$ 8,414,724 |
| 7. Construction | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 8. Other | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 9. Total Direct Costs (lines 1-8) | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |
| 10. Indirect Costs* | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 11. Training Stipends | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 12. Total Costs (lines 9-11) | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |

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

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

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

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

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

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

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

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



U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:
 Georgia Department of Education

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SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

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

U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

STATEWIDE LONGITUDINAL DATA SYSTEMS

CFDA # 84.372A

PR/Award # R372A090052

Grants.gov Tracking#: GRANT10076319

OMB No. 1890-0004, Expiration Date:

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| 5. <i>Dept of Education Supplemental Information for SF-424</i> | c10 |

Narratives

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| 1. <i>Project Narrative - (Abstract Narrative...)</i> | c11 |
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Application for Federal Assistance SF-424

Version 02

| | | | | | |
|---|---|---|---|--|--|
| * 1. Type of Submission: | | * 2. Type of Application: | | * If Revision, select appropriate letter(s): | |
| <input type="checkbox"/> Preapplication | | <input checked="" type="checkbox"/> New | | <input type="text"/> | |
| <input checked="" type="checkbox"/> Application | | <input type="checkbox"/> Continuation | | * Other (Specify) | |
| <input type="checkbox"/> Changed/Corrected Application | | <input type="checkbox"/> Revision | | <input type="text"/> | |
| * 3. Date Received: | | 4. Applicant Identifier: | | | |
| <input type="text" value="09/25/2008"/> | | <input type="text"/> | | | |
| 5a. Federal Entity Identifier: | | | * 5b. Federal Award Identifier: | | |
| <input type="text"/> | | | <input type="text"/> | | |
| State Use Only: | | | | | |
| 6. Date Received by State: | | 7. State Application Identifier: | | | |
| <input type="text"/> | | <input type="text"/> | | | |
| 8. APPLICANT INFORMATION: | | | | | |
| * a. Legal Name: <input type="text" value="Georgia Department of Education"/> | | | | | |
| * b. Employer/Taxpayer Identification Number (EIN/TIN): | | | * c. Organizational DUNS: | | |
| <input type="text" value="58-6002042"/> | | | <input type="text" value="8067431590000"/> | | |
| d. Address: | | | | | |
| * Street1: | <input type="text" value="205 Jesse Hill Drive, Suite 2066"/> | | | | |
| Street2: | <input type="text"/> | | | | |
| * City: | <input type="text" value="Atlanta"/> | | | | |
| County: | <input type="text" value="Fulton"/> | | | | |
| * State: | <input type="text" value="GA: Georgia"/> | | | | |
| Province: | <input type="text"/> | | | | |
| * Country: | <input type="text" value="USA: UNITED STATES"/> | | | | |
| * Zip / Postal Code: | <input type="text" value="30334"/> | | | | |
| e. Organizational Unit: | | | | | |
| Department Name: | | | Division Name: | | |
| <input type="text" value="Office of Technology Services"/> | | | <input type="text" value="Information Technology"/> | | |
| f. Name and contact information of person to be contacted on matters involving this application: | | | | | |
| Prefix: | <input type="text" value="Mr."/> | * First Name: | <input type="text" value="Travis"/> | | |
| Middle Name: | <input type="text"/> | | | | |
| * Last Name: | <input type="text" value="Willard"/> | | | | |
| Suffix: | <input type="text"/> | | | | |
| Title: | <input type="text" value="Deputy Superintendent/CIO"/> | | | | |
| Organizational Affiliation: | | | | | |
| <input type="text" value="Georgia State Department of Education"/> | | | | | |
| * Telephone Number: | <input type="text" value="404-657-0810"/> | Fax Number: | <input type="text" value="404-651-6867"/> | | |
| * Email: | <input type="text" value="twillard@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:

84.372

CFDA Title:

Statewide Data Systems

*** 12. Funding Opportunity Number:**

ED-CRANTS-062608-001

* Title:

Statewide Longitudinal Data Systems Grant Program CFDA 84.372

13. Competition Identification Number:

84-372A2009-1

Title:

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

State, State Agencies, School systems, and surrounding states.

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

Chronicle ??? A Data Clearinghouse for Georgia???'s Public Education System

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

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

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

| | |
|---------------------|--|
| * a. Federal | <input type="text" value="9,032,128.00"/> |
| * b. Applicant | <input type="text" value="0.00"/> |
| * c. State | <input type="text" value="8,942,640.00"/> |
| * d. Local | <input type="text" value="0.00"/> |
| * e. Other | <input type="text" value="0.00"/> |
| * f. Program Income | <input type="text" value="0.00"/> |
| * g. TOTAL | <input type="text" value="17,974,768.00"/> |

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

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

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

Yes No

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

** I AGREE

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

Authorized Representative:

Prefix: * First Name:
 Middle Name:
 * Last Name:
 Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* 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.

[Empty text input area for Applicant Federal Debt Delinquency Explanation]



U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

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 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 2. Fringe Benefits | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 3. Travel | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 18,600 | \$ 213,000 |
| 4. Equipment | \$ 314,916 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 314,916 |
| 5. Supplies | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 6. Contractual | \$ 1,986,500 | \$ 2,030,500 | \$ 2,057,800 | \$ 1,812,100 | \$ 527,824 | \$ 8,414,724 |
| 7. Construction | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 8. Other | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 9. Total Direct Costs (lines 1-8) | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |
| 10. Indirect Costs* | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 11. Training Stipends | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 12. Total Costs (lines 9-11) | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |

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

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

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

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

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

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

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

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



U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

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 | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 2,662,500 |
| 2. Fringe Benefits | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 3. Travel | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 4. Equipment | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 102,100 |
| 5. Supplies | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 6. Contractual | \$ 1,405,390 | \$ 1,405,390 | \$ 1,405,390 | \$ 1,405,390 | \$ 467,995 | \$ 6,089,555 |
| 7. Construction | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 8. Other | \$ 41,074 | \$ 41,074 | \$ 41,074 | \$ 41,074 | \$ 13,678 | \$ 177,974 |
| 9. Total Direct Costs (lines 1-8) | \$ 1,999,384 | \$ 1,999,384 | \$ 1,999,384 | \$ 1,999,384 | \$ 1,034,593 | \$ 9,032,129 |
| 10. Indirect Costs | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 11. Training Stipends | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| 12. Total Costs (lines 9-11) | \$ 1,999,384 | \$ 1,999,384 | \$ 1,999,384 | \$ 1,999,384 | \$ 1,034,593 | \$ 9,032,129 |

ASSURANCES - NON-CONSTRUCTION PROGRAMS

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

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

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

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

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

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

| | |
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| <p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Jeff Cagne</p> | <p>* TITLE</p> <p>Federal Liaison</p> |
| <p>* APPLICANT ORGANIZATION</p> <p>Georgia Department of Education</p> | <p>* DATE SUBMITTED</p> <p>09/25/2008</p> |

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

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

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

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

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

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

Statement for Loan Guarantees and Loan Insurance

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

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

| | |
|--|---------------------------|
| * APPLICANT'S ORGANIZATION Georgia Department of Education | |
| * PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE | |
| Prefix: Dr. | * First Name: Jeff |
| Middle Name: P | |
| * Last Name: Gagne | Suffix: |
| * Title: Federal Liaison | |
| * SIGNATURE: Jeff Gagne | * DATE: 09/25/2008 |

Close Form

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

| | | | | |
|---------|---------------|--------------|--------------|---------|
| Prefix: | * First Name: | Middle Name: | * Last Name: | Suffix: |
| Mr. | Travis | | Willard | |

Address:

| | |
|-------------|-----------------------|
| * Street1: | 1965 Twin Towers East |
| Street2: | |
| * City: | Atlanta |
| County: | Fulton |
| * State: | GA: Georgia |
| * Zip Code: | 30334 |
| * Country: | USA: UNITED STATES |

* Phone Number (give area code) Fax Number (give area code)

| | |
|--------------|--------------|
| 404-657-0810 | 404-651-6867 |
|--------------|--------------|

Email Address:

| |
|------------------------|
| twillard@doe.k12.ga.us |
|------------------------|

2. Applicant Experience:

Novice Applicant Yes No Not applicable to this program

3. Human Subjects Research

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

Yes No

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

Yes Provide Exemption(s) #:

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No Provide Assurance #, if available:

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Please attach an explanation Narrative:

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Add Attachment

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Project Narrative

Abstract Narrative

Attachment 1:

Title: Pages: Uploaded File: 1234-GaDOE LDS Project Abstract 9-25-2008.pdf

Project Abstract

Project Title: *Chronicle – A Data Clearinghouse for Georgia’s Public Education System*

The Georgia Department of Education plans to use funds from the Statewide Longitudinal Data System Grant to establish a new infrastructure that manages the exchange, integration, analysis, and reporting of educational data for the State of Georgia. The Department’s existing collection of student data via manually uploaded flat files will be replaced by an Enterprise Data Hub. The hub will facilitate efficient and reliable interoperability with local educational agencies, other educational agencies within Georgia, adjacent state educational agencies, and federal databases. A P-20 data model will be designed to track student data longitudinally and integrate information about teachers, courses, programs, schools and systems to provide better understanding of the influences on and context for student achievement. The new system will be referred to as Chronicle, in reference to the chronological record of events that the system will maintain.

Chronicle will facilitate nightly data exchange with each of the State’s 182 districts; increasing the frequency with which data can be shared and reducing reporting demands on contributing agencies. The hub will provide a new infrastructure for the Department and other agencies to source data for analyses and applications that enable stakeholders to better inform their decisions with timely and relevant data. Student transcript information will be collected, integrated, and disseminated through the hub using a Service Oriented Architecture with XML standards. Applications sourcing data from Chronicle will provide instructional staff with important longitudinal data for the students they are currently serving.

The exchange of data is proposed to include other Southeastern states, pending new FERPA regulations that permit such exchange. Cross state data exchange is proposed to 1) improve the continuity of services for transfer students, 2) facilitate auditing of reported student transfers out of the State, and 3) update dropout statistics for students that re-enroll in other states. This architecture will provide Georgia with data that is necessary to produce a valid and reliable four-year adjusted cohort graduation rate that better informs our efforts to ensure all students graduate from high school ready for a career and/or post-secondary study.

The system’s P-20 data model will provide a platform to enable an integrated view of Georgia’s Public Educational System. Organizational affiliates from the Georgia Alliance of Educational Agency Heads, including the University System of Georgia, the Georgia Department of Technical and Adult Education, and Georgia’s Department of Early Learning (Bright from the Start) will contribute and retrieve data via the Hub. This P-20 data store will provide the State with an infrastructure to not only assess the extent to which graduates are adequately prepared for further education or work, but also to identify the most effective programs in preparing students for the next stage of their educational careers.

A comprehensive data governance plan will strengthen the integrity and security of data contained within Chronicle. Data consolidation will be supported by standardized processes and integrity checks to improve data quality and consistency. Nightly collections will enable timely evaluation and remediation of data quality issues. The more frequent collection cycle will enable ongoing data quality initiatives that are currently compressed within the State’s four annual data collection periods. The project will include support from numerous partners including: the Governor’s Office of Student Achievement, the Alliance of Educational Agency Heads (Georgia’s P-20 council), an advisory council of school district representatives, and the Private Data Vendors.

Project Narrative

Project Narrative

Attachment 1:

Title: Pages: Uploaded File: 1237-GaDOE LDS Project Narrative 9-25-2008.pdf

Project Narrative

A. Need for the Project

The aim of the Chronicle project is to provide a foundation to support a Statewide Educational Decision Support System. Chronicle will serve as a longitudinal record of educational progress for the State's 1.6 million students and integrate that data with information regarding state educators, educational programs, assessment outcomes, and other school and district indicators. The system will support targeted applications that inform the decision making process of school, LEA, and state level users. Chronicle will also serve as the clearing house of state educational data to meet federal data requests and support public reporting of data. Both the State's NCLB/AYP system and public Report Cards will be retrofit to make use of data from the Chronicle Data Hub. Further, the system will provide researchers and analysts with access to a P-20 Enterprise Educational Data Model that is easy to query. Analysts will leverage the Hub to conduct analyses to support program evaluation, measure the impact of initiatives, and identify trends and relationships in the data that suggest opportunities to improve student achievement.

Chronicle will leverage a flexible architecture to facilitate the integration of additional external data sources as new kinds of data are collected to better study and model pathways of student success. The vision for Chronicle is that it becomes a longitudinal data system that is capable of meeting the informational needs of 4 distinct audiences.

1. Chronicle will provide ***school personnel*** with information to assist in tailoring instruction to help each student improve.
2. Chronicle will furnish ***administrators*** with information to effectively and efficiently manage and allocate resources.
3. Chronicle will enable ***policymakers*** to evaluate whether initiatives show evidence of increasing student achievement.
4. Chronicle will empower the ***public*** to hold public education in Georgia accountable by providing transparency through data reporting.

Project Background

In December 2003, GaDOE began development of a Statewide Student Information System (SSIS) using state funds. The project was designed to implement a multi-phase solution for a comprehensive student-centered statewide data collection and reporting system for K12 public education in the State of Georgia. Justification for the project included compliance with Georgia State Law, the Governor of the State of Georgia viewing the project as a top priority, and State School Superintendent's including the effort within the Department's strategic goals.

Although the project successfully implemented a statewide unique identifier system and deployed business intelligence tools, over 80% of Georgia's districts were unable to contribute to the system by submitting a full complement of the required ETL templates when the system was placed into production in fall 2006. The project's Independent Verification and Validation team identified multiple reasons contributing to the data load issues, including:

- Data Collection processes were single-threaded resulting in excessive processing times to load large quantities of data, thus creating a "log jam" for the files queued behind the large upload files.

- The quality of the data from the local SIS applications was not acceptable, and the ETL process/templates did not contain the robust data validation and business rules required to clean the data resulting in incomplete data loading into the GSSIS Pre-Production database.
- Many Districts chose not to attempt and/or comply with the request to load data using the new upload process due to the incremental effort required to provide the data to GSSIS coupled with existing data collection efforts required for the legacy reporting systems (e.g. FTE and Student Record).
- The software required to extract data from the local SIS applications did not work correctly, and/or was not in place at the required time to perform the local extract.

As a result of these issues, the project team modified the ETL process to minimize the burden placed on local school districts. The GSSIS project reverted to using data collections from existing legacy applications to load the warehouse. This decision allowed the Department to move forward with delivering the data warehouse project. However, in doing so, key features associated with timeliness of data in the warehouse were impacted. The current warehouse has become a repository of historical information, limiting its usefulness in supporting instructional decisions that educational leaders need to make in order to support the achievement of actively enrolled students. Further, limitations in the warehouse prevented existing legacy applications from being retrofitted to use the warehouse as a consolidated clearinghouse. As a result, the department is still faced with the challenge of maintaining and reconciling numerous soloed data stores to support its portfolio of accountability and decision support applications.

During the spring of 2008, state funding was used to execute a proof of concept for technical components described in this proposal. The proof of concept study evaluated the feasibility of nightly data exchange and data quality monitoring between 2 of the largest LEAs and the State Department of Education and provided demonstrable evidence to support the proposed architecture for Chronicle.

Current Needs (Needs are *italicized* to highlight limitations of the existing systems)

The Georgia Department of Education maintains a large portfolio of projects and applications that facilitate the collection, reporting, and analysis of educational data. Appendix A-1 provides descriptions of key Departmental decision support and public reporting applications that will benefit from this project. These initiatives have emerged over the years to meet a variety of federal, state, and local needs. As the breadth of these initiatives has grown, *solutions to comply with federal, state, and local informational requirements have become increasingly complex*. This complexity has resulted in the creation of numerous data stores that are tailored to meet the distinct reporting needs of specific applications and events.

An excessive amount of manual effort is required by state and local resources to exchange, validate, and integrate data due to poor interoperability among existing systems. As a result, highly qualified resources are dedicated to the operation and maintenance of these legacy applications. The Chronicle project aims to improve the efficiency and integrity of data exchange through an automated solution; thus enabling the public education system to reclaim these resources for the purpose of developing targeted applications, reports, and analyses that convert data into actionable information that helps the state educational system achieve its vision of leading the nation in the improvement of student achievement.

An automated exchange is needed to enforce data quality controls and manage appropriate access to student information. By automating data exchange, data quality checks and reports identifying issues can be

generated on a timelier basis. This will provide school and district staff with information about data quality throughout the year, rather than during a compressed window surrounding an important state reporting date. The nightly automation process will enable the effects of data cleanup efforts to be manifest the following day after new edits are compared against the newly collected data; reinforcing data quality efforts.

More regular exchange of data will also enable the Department to provide instructional staff with longitudinal information about the strengths, weaknesses, and needs of current students, while maintaining compliance with FERPA regulations. Our current accountability and reporting systems are limited to data about the FERPA limits the accessibility of student information to instructional personnel with a legitimate educational need for such access. *Georgia's current data warehouse is not updated throughout the school year and is thus incapable of meeting these security and confidentiality requirements.*

The proposed Data Hub design includes data exchange and a data model for student schedules and course section instructors which will enable the department to identify the distinct list of students that instructional staff is serving in their classes. The Department envisions using funds from the Statewide Longitudinal Data System grant to build a new foundation for data collection, storage, and exchange to support a new generation of applications. Conceptualized as the Data Hub, the architecture will use a Service Oriented Design to collect and disseminate data to better meet the need for operational reporting and analysis of current circumstances. *A key advantage of the hub design over a traditional data warehouse is that information - derived from data processing in external applications - can be routed back to the hub and made available to other applications.*

The Department's portfolio of decision support applications inform choices and actions at all levels of the educational system, ranging from state administrators to school level personnel. One of the key requirements of these applications is the ability to provide information about the group of students that schools are currently serving. *Georgia's current state level data systems were not designed to fulfill this requirement.* The timely exchange of data is an essential requirement that the Data Hub will meet to enable the department to provide improved decision support applications. Two examples of existing decision support applications that will benefit from more timely data via the Data Hub, are described below.

The Department's Student Profile application provides instructional staff with access to a student's longitudinal academic record. The Student profile furnishes information about enrollments, program participation, demographics, course grades, and assessment scores for a student. The Student profile application necessitates the proposed Data Hub to assist in regularly updating the location of students, providing teachers with access to newly enrolled students, and enhanced security to provide secure access to teachers and other instructional staff who only serve a subset of a school's student population. *Georgia's existing data warehouse is not capable of being updated as frequently as necessary to support these requirements.*

The Graduation Coach Work Management System includes a candidate roster that provides school staff with information to assess the degree of risk that students in their school are exhibiting with regard to their potential of dropping out or otherwise not earning a standard high school diploma. The candidate roster assists coaches in identifying students who may benefit most from planned interventions, identify pervasive needs in their school's student population, and prioritization assistance to students demonstrating the greatest level of need. *The Graduation Coach Candidate Roster module necessitates a new data source to provide regular updates based on changes in location of students, update risk criteria status throughout the years (e.g. attendance, new assessment results, etc.), and supply at-risk criteria status for newly enrolled students.*

Additionally, this project will support calculation of the National Governor's Association (NGA) cohort based graduation rate. Georgia agreed to NGA Compact acknowledging that an accurate and comparable graduation rate can help policymakers across the country communicate with and learn from each other as education research and policies are designed and implemented. To date, *Georgia is limited in its ability to produce a valid and reliable cohort based Graduation Rate.* While Georgia does possess a statewide unique identifier product to assign permanent identification numbers to all of the State's 1.6 million students, the department does not have access to a record matching engine to validate incoming IDs that accompany student data records. Without such an engine, the department is limited in its ability to validate the accuracy of reported data that is accompanied by a Georgia Test Identification (GTID) number (i.e. Georgia's Unique Student Identifier). Georgia plans to use funds from the Longitudinal Data System grant to correct these deficiencies so that it can produce a valid and reliable cohort based graduation rate for the class of 2010.

Further, *the Department does not have an efficient mechanism to audit the reported withdrawal codes from school districts.* In conjunction with our plan for Data Governance to establish process and procedures to improve the transparency and consistency of such data, Georgia plans to use funds from the LDS grant to pursue secure student transcript exchange with other southeastern states. The department believes the ability to exchange data with other states is an essential component to support the production of valid and reliable graduation rates in any state with a significant amount of student transience. Georgia plans to leverage this exchange network to audit reported transfers out of state and recover reported dropouts who re-enroll in other states in an effort to produce accurate Graduation Rates based on the Cohort methodology.

Georgia also plans to use the data exchange with partner southeastern states to gather and report data for newly arrived students that transfer into the State. In 2007-2008, the department noted that upwards of 25% of reported dropouts were new to the State. Access to the educational history for those students may have helped Graduation Coaches and other school staff better identify which newly arrived students were at-risk of dropping out; enabling preventative services to be designed and delivered to better meet their needs. Unfortunately, *educational leaders currently have access to little academic background for interstate transfer students and the access that is provided typically resides in hard copy form, making the mining of such information an inefficient process.*

Summary of Existing System Needs

- Excessive amount of manual effort is required by state and local personnel to exchange, validate, and integrate data.
- Excessive resources are dedicated to the operation and maintenance of legacy applications.
- Existing data warehouse is historically focused and does not provide information about student populations currently being served.
- System users are unable to access information about newly enrolled students.
- Indicators used to identify students at-risk of dropping out are not regularly updated.
- State unique identifier product exclusively designed to handle id assignment, not id management or validation.
- State lacks ability to audit withdrawal codes for students reported as out of state transfers.
- State is limited in its ability to produce a valid and reliable cohort based Graduation Rate.

Summary of Proposed Project Activities

The Department proposes to use funds from the Longitudinal Data System grant for the following **foundation activities**, as identified in the Request for Applications:

1. Replace the department's existing data collection and reporting infrastructure with a Service Oriented Architecture to enable more efficient and reliable data exchange with local educational agencies and production of EDFacts requested data;
2. Create an Enterprise Data Hub, comprised of both an Operational Data Store (ODS) and a Dimensional Data Warehouse (DW) to meet the transactional application needs and the longitudinal analysis needs of all education data providers/consumers across the State;
3. Implement a records matching engine to evaluate the integrity of records submitted in association with a state unique student identifier in support of longitudinal analyses, such as calculating a valid and reliable cohort based Graduation Rate;
4. Create an infrastructure to monitor and report on issues of data quality using standardized business rules executed against source data systems by a metadata driven business rules engine;
5. Establish data governance processes, procedures, and products to address issues of data ownership, management, confidentiality, access, and consistency that will inevitably arise out of the project's efforts to produce a consolidated clearinghouse of data, and
6. Collaborate with southeastern states to audit student withdrawal codes, including students that are reported as transferring to another state, and recover reported drop-outs who subsequently re-enroll in other states in support of calculating a valid and reliable cohort based Graduation Rate.

Additionally, the Department proposes to use funds from the Longitudinal Data System grant for the following **enhancement activities**, as identified in the Request for Applications:

1. Establish interoperability with other state educational agencies within Georgia;
2. Exchange student information with other southeastern state educational agencies and post-secondary institutions as permitted under new FERPA regulations, and
3. Retrofit existing decision support, public reporting applications, and business intelligence tools to source data from the Data Hub.

B. Objectives for Proposed System

Georgia's proposal for development of the Chronicle longitudinal data system is based on 6 objectives that are critical to meet the State's current and future needs for educational data. Each of the objectives are essential, but in isolation insufficient, for Chronicle to be capable of achieving its mission of informing decisions that lead to improved student achievement and the closing of achievement gaps. The overall system requires that all of these objectives be met to meet the informational needs of the State. These objectives will be accomplished through delivery of System Components described in Section C – Project Design.

Objective 1 - Support Data Quality

The Department recognizes the need for quality data as an essential requirement for the Chronicle longitudinal data system. Regardless of high quality in all other system components, poor quality data cannot be compensated for or worked around. Poor quality data puts the entire system at risk and will undermine efforts to promote data informed decision making. In light of unreliable or invalid data, consumers have little recourse than to revert to anecdotal evidence in support of their decision making process.

From the Department's experience, Data Quality is not a condition but rather a process. Data must be continuously collected and constantly evaluated to ensure its integrity. Traditional data collection schedules, which restrict data collection to a few points in time throughout the year, undermine data cleanup efforts. In our current system, data stewards are only provided feedback around the time that data collections open and validation reports are only published and consumed around these mandated dates. This unnecessarily limits the amount of attention that users provide to support the State's efforts to improve data quality.

The planned architecture for Chronicle will enable Data Validation and Data Quality Reports to be generated nightly in order to identify missing, out of range, or inconsistent data. System users remediate problems identified in the reports by correcting data in the source data systems (e.g. a student information system). As a result, those corrections are reflected in the next day's data collection and the associated errors disappear from data integrity reports.

This plan provides great advantages over historical approaches that the department has employed. Data collections that rely on preformatted templates often suffer from repeat data quality issues when end users correct data quality issues in the extracted data. In such cases, data quality issues persist in the source data systems and may not be caught or rectified in subsequent data collections. The proposed data collection architecture for Chronicle would limit this risk by automating the data extraction and transmittal process, thus forcing users to correct data at the source.

System Components supporting this objective are described in section C, *Project Design*, and include 1) Data Submission Application, 2) Enterprise Active Data Dictionary, 3) Information Exchange Web Service, and 4) Data Validation Module.

To evaluate tangible success in meeting Objective 1, the following Critical Success Factors (CSFs) will be evaluated:

- Data Validation Reports will reflect changes in uploaded data on a nightly basis;
- Data Validation Reports will identify simulated data quality problems and represent sources of errors accurately;

- School and district personnel will be trained to retrieve Data Validation Reports via the DVR Dashboard Environment, and
- Legacy System Edit Checks will be replicated by new Data Validation Reports.

Objective 2 –Establish a an Educational Clearinghouse for Data

The Chronicle LDS will provide a much needed data repository that can serve as a single version of the truth for data across the educational enterprise. Chronicle will leverage standardized business rules to ensure a uniform view of data. Currently, the department has numerous databases with redundant data that at times can provide inconsistent results due to differences in business rules that individual repository owners introduce.

The Chronicle Data Hub will enable data elements to be version controlled, providing an audit trail to track and study changes in the data. Further, the version control design will also enable variations on base data elements to meet multiple reporting needs. The enterprise data model will be combined with a data dictionary generated by a business rules engine. The data dictionary will clarify business rules for first and second order data elements (i.e. foundational and transformed data) and will provide a level of clarity on data nomenclature that is needed to meet the distinct and varied needs of stakeholders through a unified data model.

The Data Hub will function as a consolidated data repository for applications that support transparency and accountability, such as: NCLB/AYP analysis and reporting, annual school and district report cards, Georgia’s Educational Scoreboard, and the Department’s Strategic Planning Framework. The plan to successfully transition from individual data repositories supporting these systems to use of the Data Hub will require a pilot year in which legacy application reports will be developed from both data sources in parallel to evaluate integrity and ensure consistency. The Chronicle Data Hub will also serve as a constantly updated data source for the Department’s portfolio of Decisions Support Applications, which will require a pilot period in which parallel systems are operated to evaluate uniformity in decision support outcomes based on the two data sources.

System Components supporting this objective are described in section C, *Project Design*, and include 1) the Enterprise Data Hub, 2) the Enterprise Active Data Dictionary, 3) the Data Validation Framework, and 4) the Data Integration Engine.

To evaluate tangible success in meeting Objective 2, the following Critical Success Factors will be evaluated:

- Historical legacy application reports will be reproducible by Chronicle as historical data is loaded into the Data Hub;
- Members of the Executive Steering Committee will signoff that metadata contained in the Data Dictionary is complete;
- AYP analyses generated from legacy application databases and the Data Hub during the pilot year will yield consistent results, and
- Report Card metrics generated from legacy application databases and the Data Hub during the pilot year will yield consistent results.

Objective 3 – Improve Efficiency of LEA & SEA data exchange

Improving the efficiency of data exchange is important for a number of reasons. As previously noted, more *efficient* data exchange enables more *frequent* data exchange, which supports important data quality processes. More efficient data exchange also frees up local resources to focus more time

on data cleanup efforts. Resources that were previously committed to generating, formatting, and transmitting data collection files are now available to be redirected to support data quality initiatives. Local resources that manage state and federal reporting initiatives know local data sources as well as anyone and can be strategically used to assist in the development of training to prevent the entry of poor quality data.

Additionally, improved efficiency is essential to support instructional decision making that can impact the achievement of a student. Typical data warehousing designs only support historically focused analyses. AYP is a good example of such analyses; where the intent is to evaluate annual, summative performance. Data from large scale assessments are merged with course grades and enrollments from prior count days to support summative evaluations. Researchers and administrators are able to use this information to evaluate whether students in a school reached the expected level of performance. In some cases, such information can be used to evaluate whether instructional programs or initiatives are working. However, this approach does not lend itself to supporting the decisions that need to be made by instructional personnel for the group of students that they are currently serving.

The case of inter-district transfer students provides a good example of such need. When a student transfers from one district to another, they often show up at their new school without the cumulative folder from the previous school. As a result, school staff have little information on which to base course scheduling decisions. Often, important instructional time is lost as students wait to be assessed for placement in the most appropriate educational setting. Further, students with disabilities or other significant educational needs fail to receive continuity in services when instructional staff are not provided with information of students' specific needs.

Our long term vision is for the Data Hub to serve as a foundational component for an enterprise data system that manages the delivery of instructional content. In order to do so, the hub must have the ability to report information to instructional staff about the students that they are currently serving. This requires near real time data exchange of student course schedules, enrollment transactions, teacher assignments, and unique ID claims.

System Components supporting this objective are described in section C, *Project Design*, and include 1) Data Submission Application, 2) Information Exchange Web Service, 3) Data Integration Engine, 4) Enterprise Data Hub, and 5) the Operations and Administration Console.

To evaluate tangible success in meeting Objective 3, the following Critical Success Factors will be evaluated:

- A variety of aggregate data counts derived from data loaded into the Hub match counts derived from data in Agency source data systems that feed the Hub and any discrepancies will be resolved;
- Student data entered into LEA source data system will appear in the GaDOE Student Profile report the following day;
- Simulated data errors entered into LEA source data systems appear in available Data Validation Reports and disappear after simulated errors are corrected, and
- Longitudinal student data obtained from Information Exchange Web Service will match the information contained in GaDOE Student Profile online application.

Objective 4 - Enable Student Achievement to be Studied Longitudinally

While Georgia has had a Unique Student Identification System in place for almost 3 years, additional system components are needed to ensure longitudinal student records can be integrated and maintained. Since completing the GSSIS project, GaDOE has discovered that Unique Identifier assignment is only the first step in establishing a Longitudinal Data System. Almost as important is access to a record matching engine to validate the integrity of subsequent data records that are accompanied by the Unique Identifier. It is important to monitor that student records reported with a GTID represent the same person that the GTID has been assigned to represent.

To ensure this integrity, a record matching engine is required to validate the integrity of IDs accompanying incoming records. This requires that available demographics be used to evaluate consistency with demographics in the Unique ID database to ensure a high likelihood of data integrity. Accountability Growth Models, value added analyses, and cohort based graduation rates require that only one student have data reported in affiliation with a distinct student identifier. As Georgia transitions to a cohort based Graduation Rate, this component of the LDS will be essential to produce valid and reliable results.

Additionally, Longitudinal Data Systems hold great promise in identifying highly effective practices because of their ability to support longitudinal research. Inconclusive research studies too often explain such findings based on the assumption that the benefits of school improvement initiatives and instructional programs can take many years to realize. As a result, few programs possess the infrastructure to support longitudinal analyses that evaluate the long term success of students. To support such analyses, the Chronicle data system will include a student cohort tracking application. This application will enable users to identify a collection of student identification numbers as a distinct cohort. Such cohorts will be available via ad hoc analysis tools for the purpose of leveraging academic measures from the longitudinal Data Hub to support longitudinal analyses.

System Components supporting this objective are described in section C, *Project Design*, and include 1) Data Integration Engine, 2) Enterprise Data Hub, 3) Unique ID Matching Engine, 4) Business Intelligence Services, and 5) Cohort Management Application.

To evaluate tangible success in meeting Objective 4, the following Critical Success Factors will be evaluated:

- Simulated inconsistencies in longitudinal data will appear in available Tier 3 Data Validation Reports and disappear after simulated errors are corrected;
- The record matching engine will process simulated data records appropriately using established business rules for the processing of records finding 1 or more low, medium, and high quality matches;
- GTIDs will be appropriately associated with simulated enrollment transactions and exception reports will identify incoming student records that appear to not be associated with a valid GTID, and
- Test cases for cohort generated statistics will be replicated using data in legacy data stores.

Objective 5 - Establish Inter-Agency Data Exchange

GaDOE does not have an efficient mechanism to audit reported out of state withdrawal codes from school districts. In conjunction with our plan for Data Governance to establish process and procedures to improve the transparency and consistency of such data, Georgia plans to use funds from the LDS grant to pursue secure student data exchange with other southeastern states. The department believes the ability exchange data with other states is an essential component to support

the production of valid and reliable graduation rates in any state with a significant amount of student transience. Georgia plans to leverage an interstate exchange network to audit reported transfers out of state and recover reported dropouts who re-enroll in other states in an effort to produce accurate Graduation Rates based on the Cohort methodology.

Georgia also plans to use the data exchange with partner southeastern states to gather and report historical information for newly arrived students that transfer into the state. In 2007-2008, the department noted that a significant percentage of reported dropouts were newly arrived to the state. Access to the educational history for those students may have helped Graduation Coaches and other school staff better identify which newly arrived students were at-risk of dropping out; enabling preventative services to be designed and delivered to better meet their needs. Unfortunately, educational leaders currently have access to little academic background for interstate transfer students and the access that is provided typically resides in hard copy form, making the analysis of such information an inefficient process.

Georgia has begun discussion with several southeastern states, who have expressed a desire to exchange data for these purposes. As part of this grant, Georgia proposes to develop a Web Service that would use an XML standard to exchange the student information necessary to audit reported out of state transfers, identify reported dropouts who have reentered the public education system in other states, and to send or receive student records with partner states.

The same web service would also be used as a mechanism for exchanging data with other Georgia Educational Agencies. Additionally, the web service could be used to provide data to the Georgia Student Finance Commission. One of the primary duties of the Georgia Student Finance Commission is to determine if a student is eligible to receive a HOPE scholarship. If awarded HOPE, a student may attend any Georgia public post secondary institution tuition free. Currently, school districts must submit information to GSFC for each applying student. With this Grant Component, GSFC could request the information necessary to determine HOPE eligibility directly from SEA.

System Components supporting Objective 5 are described in section C, *Project Design*, and include 1) Information Exchange Web Service and 2) Enterprise Data Hub.

To evaluate tangible success in meeting Objective 5, the following Critical Success Factors will be evaluated:

- Pending new FERPA regulations, a web service using xml standards will provide secure access for partner Agencies and other State Departments of Education to exchange student records via the Data Hub, and
- Test cases for simulated interstate transfers will enable the state to audit reported transfers out of state and recover previously reported drop-out students.

Objective 6 - Improve Data Access Controls

The Georgia Department of Education currently administers over fifty applications that require secure access to data via the MyGaDOE portal. The portal is a custom framework developed within the department to host applications, facilitate communications, and provide identity management for secure applications administered by the SEA. The portal is built on a combination of Microsoft .NET and Oracle 10G technologies and is available to all staff and personnel of the Georgia Public Education System.

Access to the portal is facilitated using a self request registration model. Users are able to request access to the portal by specifying their role in an organization, such as a specific school or district. Each organization in the portal has a local security officer that reviews and approves such requests. Based on the role in which a user has been approved, the user is able to request access to one or more applications that serve their specific role. Again, local security officers and application owners must approve all application requests.

While the subscription model has served the Department well for almost 5 years, we are now in need of an upgraded portal and provisioning system to control user access. Although the current system adequately grants access to new users, it needs a more robust and systemic process to disconnect users who are either reassigned to different duties or leave the school systems. As part of this grant, the Department proposes to develop a new provision process by which districts and other organizations will explicitly manage the access and rights of its user base. Data collections will identify staff and personnel who are eligible to receive portal accounts. Further, organizational security officers will be required to regularly renew the access rights of users.

This new system will also expand the portal's ability to support teachers. Portal applications will be able to provide teachers with longitudinal information on their students by constraining such access to students enrolled only within classes that the teacher is identified as the instructor of record. Currently, portal applications that provide access to student level data can only be provisioned to users that should have access to records for all students within the school. As such, principals, counselors, and graduation coaches – but not teachers – are the only school personnel our decision support tools are able to reach.

System Components supporting Objective 6 are described in section C, *Project Design*, and include 1) Enterprise Security Data Store, 2) Information Exchange Web Service, and 3) Enterprise Data Hub.

To evaluate tangible success in meeting Objective 5, the following Critical Success Factors will be evaluated:

- Instructional staff (from district level to classroom level) will be provided with access to the longitudinal records of students that they serve;
- Access rights for educational personnel will be appropriately managed as employment status and roles change;
- Applications sourcing data from the hub will transition from a self-request provisioning model to District managed access with cross validation against Certified Personnel Inventory for all school level personnel, and
- Access control standards will be established and implemented for all applications referencing data from the Hub (e.g. minimum password complexity standards, conditions in which account can be updated, suspended, and terminated).

C. Project Design

Project Design to Facilitate System Governance

Georgia's plan for developing a new longitudinal data system includes a plan for governance that is designed to include all stakeholders in the development of standards that will govern operation of the Enterprise Data Hub. The plan recognizes the importance of involving all stakeholders of the system as participants and the importance of establishing formal processes to guide system operations. By executing this plan, Georgia's new longitudinal data system will benefit from:

- Reduced operational friction among agencies contributing data to the Hub;
- The needs of data stakeholders being regularly reassessed, met, and protected;
- Adoption of best practices in addressing data issues;
- Development of standardized processes and procedures;
- Reduction in informational system costs;
- Increase effectiveness through coordination of efforts, and
- Increased transparency and accountability.

Governance Participants

The Governance Plan for the Chronicle LDS will bring together 3 existing state governance groups to contribute to the development, implementation, and maintenance of the Chronicle LDS. The Georgia District Technology Steering Committee consists of LEA representatives who regularly collaborate with the SEA to discuss issues involving the collection, reporting, and exchange of K-12 student, enrollment, curricular, staff, and financial data. The Georgia Data Vendor Network is comprised of third party vendors that administer data systems involved in the collection and reporting of P-20 educational data. Finally, the Alliance of Educational Agency Heads Technology Steering Committee consists of Technology leaders from each of Georgia's Educational Agencies to collaborate on the exchange of data to enable analysis of policy issues that impact the success of Georgia's comprehensive P-20 Educational System. Further description of these Governance Groups is provided in Appendix A-2.

System Governance Policies

Collectively, the three existing organizational bodies will contribute to the development of standards, guidelines, and business rules that govern who can take what actions with what information, and when, under what circumstances, using what methods (citation). On a semiannual basis, appointed representatives from the existing 3 governance groups and program managers for the Chronicle program will meet together as an Executive Steering Committee to report on data integrity initiatives, review issues and risks, identify emerging needs, recommend action items, and vote on policies that govern the newly created Educational Data Hub.

This Executive Steering Committee will be charged with establishing standards for the following areas:

- Integrity & Standardization standards will describe how quality and consistency is preserved in the Data Hub. These standards will be used to establish policies and procedures that preserve high quality data in a repository that successfully integrates data from numerous sources;

- Accountability & Transparency standards will describe how the system is administered and managed in an open manner to prevent ambiguity and promote responsibility;
- Stewardship & Governance standards will describe how data governance policies for the system are established, enforced, and monitored, and
- Change Management standards will define the sequence of procedures that are to be followed when changes to the data are required. This will include policies and procedures governing change requests, coordination and approval of changes, implementation, and communication of such changes.

Project Design to Enable Federal Reporting

Georgia recognizes the important role it plays as a collector, manager and reporter of large amounts of educational performance and demographic data. Having received numerous recognitions from the U.S. Department of Education for timely and accurate submission of data, GaDOE has demonstrated a commitment to empowering the Federal government with data to inform policy, management, and budget decisions. Through the Department's efforts to meet the reporting requirements of EDFacts, Georgia has been able to streamline submission of Federal data reporting via the EDEN Submission System. These efforts have enabled the Department to replace manual data submission by federal program managers with automated data extractions from our legacy data collection repositories.

Establishing a unified longitudinal data store via the Chronicle Data Hub will further enable the department's efforts to meet data requests on behalf of the K-12 public education system. As the Data Hub is extended to include data from other State Educational agencies, similar benefits will be realized by other state agencies. State personnel will benefit from the P-20 Data Hub as a clearinghouse of educational data to meet not only EDFacts requests, but also other educational data requests such as the Integrated Postsecondary Education Data System (IPEDS).

Georgia plans to use funds from the longitudinal data system grant to retrofit its submission Federal reporting process to the Chronicle Data Hub. The project will use the EDFacts XML file specifications and validation schemas to supply data to EDEN. The department will pilot this new submission process in parallel with our existing submission processes for at least one year, so that data prepared for EDFacts from the new Data Hub can be compared to our existing, proven methodology. Additionally, the Service Oriented architecture and developed web services can be made available to US Department of Education to meet emerging needs for more timely data at the federal level. GaDOE anticipates the system will facilitate collaboration with our Federal data partners and hopes to collaborate with NCEs staff on research studies using data from the new system to identify highly effective practices that raise the achievement of all students.

Project Design to Maintain Privacy, Protection and Data Accessibility

In addition to supporting and reinforcing efforts to improve data quality, the timely exchange of data via the Enterprise Data Hub is critical to ensure applications built atop Chronicle are in compliance with the Family Educational Rights and Privacy Act. FERPA regulates the conditions under which educational personnel may be provided access to personally identifiable and sensitive student data. Decision Support Applications that contain the informational power to increase student achievement necessitate providing users with access to highly sensitive data including personally identifiable student information. In order to secure this data properly, decision support applications must have access to two accurate pieces of information: student enrollment locations and user organization roles.

Both the data exchange model for the Chronicle Data Hub and resources that are recovered through automated data exchange will enable the new system to manage the two components of providing secured access. First, the nightly exchange of data via the hub will enable all applications that reference the hub to identify where students are actively enrolled. The Georgia Test Identification Number (GTID) will be used to associate current enrollment records with historical data. Enrollment records will identify the school, grade level, and classes in which students are enrolled.

Agency data stewards will manage appropriate entity level access for users of the system. To the extent that this information is stored and maintained in the LEAs' Student Information Systems, the collection of this information will be automated. Conversely, local security officers (i.e. data stewards) will be provided with a mechanism to associate users with the appropriate level of access to students within their organization. This plan recognizes that users only have a legitimate education interest in accessing records for students that they serve. Thus, school administrators have a legitimate educational interest in all students in the school, but teachers only have an interest in students enrolled in classes that they teach.

Project Design to Support Data Quality

Data quality is a necessary condition for a decision support system. Data quality provides the essential characteristics of reliability and validity that a system needs in order to identify highly effective practices, isolate significant relationships, and identify the mediating factors that impact student achievement. Without data quality, a decision support system will be filled with noise that corrupts the power of analyses to detect and identify such influences.

Georgia proposes to use funds from the Longitudinal Data System Grant to develop data quality controls that empower local users and reinforce best practices. The nightly exchange of data facilitated by the hub will enable data quality checks to be refreshed daily to identify and provide feedback on potential data issues. These data quality checks will take the form of Data Validation Reports. Three levels of DVRs will be created and published for system users to correct identified issues and identify areas where new processes, procedures, and professional development can help to prevent recurrence of such issues.

Project Design to Enable Interoperability

The Enterprise-wide Architecture for Chronicle establishes a consolidated longitudinal data system that is not just a historical data repository, but also an active operational platform that enables day-to-day mission-critical applications to interact with the Enterprise Data Hub. This provides a framework capable of not only supporting longitudinal analysis of student achievement, but also delivering real-time information on students to key decision makers at all levels in the organization in support of day-to-day decisions. This real-time collection and delivery capability enables the Enterprise Data Hub to function as an exchange mediator between decision support applications and transactional data systems that administer day-to-day operational activities. In this role, the Data Hub facilitates interoperability between the operational and analytical applications supporting the Public Educational System.

The use of a web service (Information Exchange Web Service) that utilizes standards-based XML protocols to provide data submission to, and data requests from, the Enterprise Data Hub is a critical component of the Enterprise-wide Architecture framework that enables interoperability. This web service can accept data submissions (such as enrollment records or schedule changes from LEAs), as well as data requests (such as transcript requests from LEAs or even other State Education Agencies when students move between districts and/or states). Additionally, this

Information Exchange Web Service can request data from LEAs and/or other State Education Agencies to track student withdrawal and subsequent enrollment information to better report actual dropout rates.

A Data Integration Engine is another component of the Enterprise-wide Architecture that supports interoperability. The Integration engine provides the capability to run legacy applications in parallel with the new application framework to compare and audit the results of the new framework applications and ensure that the business rules match between the legacy applications and the new applications.

Components Supporting the Enterprise-wide Architecture

To provide a framework that supports the breadth of data needs identified previously, the following components will be included within the Enterprise-wide Architecture of Chronicle:

1. *Enterprise Data Hub.* The Enterprise Data Hub serves as the cornerstone of the Architecture for Chronicle. The Hub will encompass a P-20 data model which includes both an Operational Data Store (ODS) and a Dimensional Data Warehouse (DW) that will meet both the transactional and analytical requirements of Local Educational Agencies, the State Department of Education, Georgia Educational State Agencies, and Federal Department of Education. The data model will encompass all data elements necessary to replace existing data collections and support mandated reporting requirements for student data, as well as be modeled in a fashion that enables incremental additions of new data sources and data elements over time in a modular fashion. This will provide an extensible framework that will grow with the State's needs over time. The Enterprise Data Hub will serve as the information clearinghouse for new data needs. As the "statement of record" for P-20 education data in Georgia, the Hub will supplant existing "stove pipe" data systems with a single, integrated view of student data;
2. *Enterprise Data Dictionary.* The Enterprise Data Dictionary will provide a historical context of all information within the Enterprise Data Hub. The Data Dictionary will describe all data sources, targets, business rules, data validation rules, data ownership, and security requirements for all information within the Enterprise Data Hub. This will include important metadata regarding the information stored in the Enterprise Data Hub. This Data Dictionary will be a resource to support the need and uses, governance, institutional support, sustainability, privacy and accessibility, data quality, and interoperability requirements for information in the Enterprise Data Hub;
3. *Information Exchange Web Service.* The Information Exchange Web Service will be based upon a Service Oriented Architecture that facilitates the exchange of information between all organizations and the Enterprise Data Hub. The Information Exchange Web Service will coordinate submittal of information both for nightly submission of key education data as well as seasonal submissions such as Certified Personnel Inventory reporting. Additionally, the Information Exchange Web Service will coordinate requests for information, such as transcript requests for inter-district or inter-state transfers. The Information Exchange Web Service will utilize standards-based encrypted XML messaging protocols to facilitate data exchange between applications. This standards-based web service will facilitate interoperability between the various

systems and agencies involved in data exchange with the Enterprise Data Hub. For example, the Information Exchange Web Service could be configured (utilizing a standard such as SIF) to provide “closed-loop” data feeds to an LEA’s Student Information System that would enable LEA SIS applications to automatically import transcript information for a student transferring into the district;

4. *Enterprise Security Data Store.* The Enterprise Security Data Store will facilitate the provisioning, authentication, authorization, and access control requirements for all data within the Enterprise Data Hub. This will address the privacy protection requirements per FERPA and other state laws or regulations concerning the confidentiality of individual records. The Enterprise Security Data Store will interact with the Information Exchange Web Service to allow/disallow data submissions and requests within the Enterprise Data Hub. Additionally, the Enterprise Security Data Store will manage application access rights for all applications interacting with the Enterprise Data Hub;
5. *LEA Data Submission Application.* A data submission application will reside at the LEAs to support both nightly as well as ad-hoc and seasonal submissions to facilitate the State’s reporting and longitudinal analysis requirements. This nightly collection process will enable the delivery of student achievement information at all levels of the decision-making process, including the State, LEA administration, school administration, and to the classroom (teacher) and individual student level. Nightly data submission will collect near real-time enrollment and schedule changes to enable delivery of critical detailed student information in a much more timely fashion than is currently possible. The Data Submission Application will communicate via standards-based XML protocols with the Information Exchange Web Service and submit compressed, encrypted data over a secure network to the State. A prototype of the Data Submission Application was successfully tested during a proof of concept with two of the largest LEAs in the State. The proof of concept demonstrated the ability to support nightly collection of demographic, enrollment, attendance, schedule, and grade information from the LEAs by uploading all the necessary data files from a LEA of 120,000 students in less than 30 minutes;
6. *Data Validation Framework.* The Data Validation Framework will provide both a rules-based engine for data validation, data standardization and edit checks; as well as a web-based interface to facilitate identification and correction of data errors at both the LEAs and the State. The rules-based engine will interact with the Enterprise Data Dictionary to maintain a historical and “current state” view of all business rules/transformations applied to all data within the various data submissions/data requests to the Enterprise Data Hub. The web-based interface will provide access to Data Validation Reports (DVRs) that identify data elements that do not pass data validation edit checks, and will provide detailed information to the LEAs to enable correction of the data. These Data Validation Reports will interact with the Enterprise Security Data Store to ensure proper access rights to the reported information. Additionally, the Data Validation Framework will interact with the nightly Data Submission Application to provide data exception information back to the LEAs in an “immediate feedback” model that supports “continual process improvement” related to data quality processes;

7. *Data Integration Engine.* The Data Integration Engine will provide data transformation and load processing services for all incoming data submissions to the Enterprise Data Hub. This module fits between the Information Exchange Web Service and the Enterprise Data Hub to apply all required business rules to the incoming data in preparation for loading into the Data Hub. It will encompass advanced extract, transform, and load (ETL) technology and methodologies to enable a true historical perspective of the data within the Enterprise Data Hub supporting both “as of” reporting capability as well as “cut off” reporting features to support the State’s current and future data submission requirements. This will facilitate the ability to track chronological data submission and LEA “sign-off” with changes. The Data Integration Engine will support the interoperability requirements of the Enterprise Data Hub by providing interfaces with legacy data systems to enable “parallel processing” during the transition from the legacy applications to the new applications supporting the Enterprise Data Hub. This will facilitate a smooth transition for LEA’s to migrate over time to the new applications supporting the Enterprise Data Hub. The State has completed a successful pilot of this capability utilizing Microsoft SQL Server Integration Services (SSIS) and has proven the feasibility and scalability of this technology as a foundation for the Data Integration Engine, and as a mechanism that will support the “parallel processing” requirements as the Enterprise Data Hub is phased in across the LEAs and other agencies;
8. *Record Matching Engine.* While the State currently has in place a mechanism for assigning unique student identifiers (GTID application), there exists an additional need (as a component of this enterprise-wide architecture) to have a record matching engine that can be integrated as a service with the other components of the architecture. This service would interoperate with the Information Exchange Web Service and the Data Integration Engine as data is loaded into, or requested from, the Enterprise Data Hub. This would facilitate matching student records, regardless of data source, as the records are prepared for loading into the Enterprise Data Hub, or as records are requested from the Enterprise Data Hub to facilitate maintenance of longitudinal student records;
9. *Business Intelligence Services.* The State currently utilizes the Cognos Suite of Business Intelligence tools to deliver reports to stake holders across the State. These tools include: Cognos Connection (a portal for end user access to the reporting solution), Framework Manager (a modeling tool for the creation of report models to support both static and ad-hoc report development), Query Studio (provides power users with ad-hoc report creation capability), PowerPlay (a interactive reporting tool enabling users to manipulate report data), and ReportNet (providing standard use, pre-built reports for end users). This existing infrastructure will be leveraged and applied against the Enterprise Data Hub to meet reporting and analysis needs not met by targeted decision support applications;
10. *Cohort Management Application.* The Cohort Management Application will facilitate the ability to evaluate the effectiveness of programs, services, and interventions. This application will enable LEAs to assign students to cohort groups and, in conjunction with the Enterprise Data Hub,

perform analysis of the performance of these cohort groups over time. The Cohort Management Application will enable true cohort reporting at the individual student level, and evaluate the impact various programs, services, and interventions have on individual learning outcomes. This capability will also enable pro-active program, service, and intervention placement of individual students based upon the evaluation of historical results of “similar” students, and

11. *Operations and Administration Console.* The Operations and Administration Console will provide a configuration and management environment for the Data Submission Application utilized by the LEAs to submit data to the Enterprise Data Hub, as well as management of interfaces that provide interoperability between the Enterprise Data Hub and legacy applications. The Operations and Administration Console facilitates the monitoring and reporting regarding the status of nightly, ad-hoc, and other seasonal submissions between the LEAs and the SEA. This application will assist with the sustainability of the solution by providing a management interface that will provide usage statistics, event notification, and exception alerts to facilitate real-time monitoring and support for all data interactions with the Enterprise Data Hub.

Benefits of Design Components

- Data that is clean, integrated, shared, and considered a single version of the truth
- Improvements in efficiency and consistency in meeting Federal data requests
- Better informed educational performance research and policy evaluations
- Reduced burden on local resources to meet data collection and data quality requirements
- Regular evaluation of data quality to support ongoing data quality initiatives
- Improved ability to perform longitudinal reporting and forecasting
- Removal of technical limitations that limit the validity and reliability of Graduation Rates Georgia could produce based on a four-year adjusted cohort
- Ability to provide instructional staff with longitudinal information about the strengths, weaknesses, and needs of students they are currently serving
- Reduction in data systems, process redundancies, and overall cost of maintaining legacy systems
- Reduced effort to maintain the Department’s application portfolio
- Shortened development time for new applications and turn around on requests for information
- Better access to information for educational decision-making through the use of timely, high-quality data and decision support tools
- A enterprise data foundation based on industry design standards
- The ability to implement metadata-driven applications that are insulated from data source changes through a service oriented architecture

D. Institutional Support

Functioning as an integrated clearinghouse of data, Chronicle will provide a data repository capable of supporting the varied informational needs of Georgia's educational stakeholder groups. Developing an integrated data repository is an important step in aligning the efforts of Georgia's educational agencies. Through access to a unified common data model, each of the agencies will be better equipped to evaluate and inform efforts to reach the State's mission of leading the Nation in the improvement of student achievement. Institutional support for this initiative will be coordinated through Georgia's Alliance of Educational Agency Heads.

Alliance of Educational Agency Heads

Guided by Governor Sonny Perdue's expectations to forge a stronger collaboration among the state agencies that serve education in Georgia, the Alliance of Educational Agency Heads was formed in 2006 to strengthen the seamlessness and overall quality of education opportunities in Georgia. The Alliance of Educational Agency Heads is charged with collaborating on policies and programs that can prepare Georgia's next generation for the opportunities and challenges of the 21st century.

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

Separately, Georgia's Educational Agencies are doing outstanding work. But working together, they can change the course of Georgia's future for all of its citizens. The Alliance focuses on barriers to educational success of all Georgia citizens, provides a comprehensive policy framework, and creates a blueprint for cross-agency collaboration. The Alliance will direct the integration and expansion of Pre-K through post-secondary activities as well as inform workforce development recommendations involving other state agencies. The Alliance has identified the following 5 goals to direct its immediate work:

1. Increase high school graduation rate, decrease high school drop-out rate, and increase post-secondary enrollment rate;
2. Strengthen teacher quality, recruitment, and retention;
3. Improve workforce readiness skills;
4. Develop strong education leaders, particularly at the building level, and
5. Improve the SAT/ACT scores of Georgia students.

The Governor appointed State Superintendent of Schools, Kathy Cox, in her capacity as a state constitutional officer, to chair the Alliance of Education Agency Heads. In this role, the superintendent is in an optimal position to garner the support of all of Georgia's Educational agencies. The support and involvement by all agencies will be required to ensure the success of the P-20 Enterprise Data Hub. Please see Appendix A-3 for letters of support for this project.

E. Project Management

Georgia is well positioned for the successful implementation of this project. Over the last several years, Georgia has made changes in a number of areas in order to equip the Department with the combination of policies, processes, and personnel that enable it to implement major software development projects using best practices under project management oversight. The Department clearly recognizes that successful projects are successful on two dimensions. First, successful projects are focused on working on the “right objectives”. However, as critical to ensuring project success is that the project be run the “right way”. Whereas previous sections of the proposal have focused on what is believed to be the right set of objectives, this section will describe how the Department’s processes and participants will plan and execute the project the “right way”.

Location of the Project

The Department has been reorganized with information systems as an independent office, the Office of Technology Services. The Office of Technology Services is represented by the Chief Information Officer who reports directly to the Superintendent of Schools. The Longitudinal Data System project would be implemented by the Division of Application Development and Decision Support within the Office of Technology Services. As previously mentioned, the Office of Technology Services and Division of Application Development and Decision Support work collaboratively with the District Advisory Committee and its Sub-Committee for Student Information Systems to present technology initiatives and solicit recommendations. Executive commitment and support are essential for the success of the LDS and the GaDOE is organized in a manner that will guarantee executive sponsorship and buy-in throughout the organization both internally and externally.

Project Oversight

Oversight for all technology projects within Georgia including the LDS is provided by two separate levels of collaborating Project Management Offices. The first level PMO was established by the Georgia Department of Education and functions as part of the Office of Technology Services. The second level PMO was established by the Governor’s Office and functions as part of the Georgia Technology Authority (GTA).

Major projects, like the Chronicle LDS, are required to provide monthly status reports to both the Project Management Oversight Committee (PMOC) as represented by the executive officers within GaDOE as well as to the Critical Project Review Panel as represented by Governor appointees within GTA. The monthly status reports are comprised of a project dashboard with a variety of supporting details. The project dashboard depicts the health of the project using stop lights and performance indicators covering six status areas: Schedule, Budget, Objectives, Issues, Risk, and Organizational Readiness.

Furthermore, the state level PMO requires major projects like LDS to employ Independent Validation and Verification (IV&V). IV&V is performed by an independent third-party vendor who participates in all weekly status meetings, reviews all project deliverables, and independently produces a monthly status report and project dashboard asserting their own project health assessment. This report is accompanied by recommendations that must be formally responded to by the project team. IV&V makes certain that issues are resolved and risks are mitigated in a timely manner. This combination of project controls and oversights ensure that the project will be accountable to the stakeholders.

Management Controls

The Georgia Department of Education will achieve the objectives of the proposed project on time and within budget by utilizing a project management process. This process is modeled after the principles of the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK) which breaks large projects into five core processes: Initiation, Planning, Execution, Control, and Closeout. The tasks and activities of these processes are then organized into a detailed project management plan that clearly defines which project team members are responsible for component delivery, timelines for delivery, and critical success factors for meeting the strategic objectives of this project.

INITIATION – *Project Initiation* is the first process of the project life cycle. GaDOE is concluding this stage of the project for the Longitudinal Data System for the next phase of Chronicle. *Project Initiation* has three main objectives: 1) the identification of key project participants, 2) the research and development of the preliminary project charter and scope statement, and 3) the development of a preliminary budget with the approval and funding.

There are six major activities of the *Initiation Process*: 1) business problem description; 2) approach overview; 3) proposed solution to the business problem, with options included; 4) options and alternatives for initiating the project and not initiating it; 5) resource (staff) planning; and 6) budget planning. Project Initiation activities also establish executive management commitment to the project and to the allocation of required resources.

The key deliverables of this phase are a project request, project charter, and preliminary budget. It should be noted that many of these deliverables overlap with the grant application. The APR specifies what the project should accomplish and provides preliminary estimated costs and anticipated project duration. It describes the business problems that necessitate the project and defines the project so all project stakeholders clearly understand the project scope and expected benefits. The project charter is developed to describe the business needs, high level project objectives and deliverables, potential solutions and preliminary recommendations, critical success factors, project financials, and assumptions and constraints. Key project individuals are named and their roles clearly defined during this process as well as the project sponsor and other stakeholders. A preliminary budget is also delivered with approval and funding must be obtained before moving to the next phase or process group.

PLANNING – The *Planning Process* follows the *Initiation Process* in the project life cycle. GaDOE is beginning this stage of the project for the Longitudinal Data System. It defines those activities that will move the business owner from the current 'concept' state to the desired future state. The primary purpose of the *Planning Process* is to achieve six objectives: 1) establish business requirements; 2) establish project scope and costs; 3) develop a schedule, a list of deliverables and delivery dates; 4) establish a staffing plan; 5) develop the project management plan (PMP) that describes the project strategy and approach for the project team; and 6) obtain management approval before moving to the next phase or process group in the project life cycle.

There are eight major activities in the *Planning Process*: 1) scope planning; 2) business analysis and requirements inventory; 3) project schedule development (work breakdown structure); 4) workforce (staff) planning; 5) financial planning; 6) communication planning; 7) quality and performance measurement planning; 8) risk management planning.

There are five deliverables of the *Planning Process*: 1) Project Definition; 2) Business Requirements Register; 3) Business Design Document; 4) Project Schedule; 5) and Project Management Plan. The Project Management Plan is comprised of nine sections that define how the project will be managed: 1) Scope Management Plan; 2) Cost Management Plan; 3) Schedule Management Plan; 4) Quality Management Plan; 5) Communications Management Plan; 6) Risk Management Plan; 7) Change Control Documents; 8) Meeting Agendas and Minutes Process Definition and Templates; 9) Risk and Issues Tracking Processing Definition and Templates

EXECUTION – *Project Execution* is the longest core process of the project life cycle and typically consumes the most energy and resources. During this process, the Project Management Plan (PMP) that was developed during the *Planning Process* is implemented, and project deliverables are built and presented to the stakeholders for signoff.

There are five major project management activities in the Execution Process. Activities in this core process include (among other activities specified in the Project Management Plan - PMP): 1) project plan execution, based on the project schedule; 2) review of metrics and status reports; 3) execution of the Change Control Process that defines the procedures to handle any changes introduced; 4) training and education needed by customers, core project team members, end users, and post go-live support personnel (e.g., Operations, Service Desk) is executed based on the master project schedule; and 5) testing of the application, infrastructure, and its corresponding performance.

It should also be mentioned that during this phase, the key stakeholders of the project are responsible for (among other deliverables specified in the Project Management Plan - PMP): review of the metrics and variances as well as taking the necessary action of variances determined to ensure the project is completed within time and budget.

From the project management process, the critical deliverable items include: 1) performance measurement which includes finding variances between planned and actual work, cost and schedule. 2) project status reports to all key stakeholders to provide visibility.

Although the project management activities provide control over the project, the majority of the deliverables from the Execution phase produce the tangible results that meet the objectives of the project. For each software component, the following deliverables are produced as part of the execution phase: Detailed Business Design, Detailed Business Requirements, Data Model, Use Cases, Extraction Transformation and Load Design and Programs, Application and User Interfaces Design and Programs, System Test, Acceptance Test, Conversion Design and Programs, and Deployment Strategy. These deliverables are comprised of a combination of documents, diagrams, programs, and data which are stored in a project notebook, source control library, and system databases.

CONTROL – *Project Control* occurs concurrently within all core processes of the project. Project control is the process for monitoring, evaluating, and responding to activities or events that can jeopardize the project's success. These include risk response control, schedule control, scope control, quality control, and budget control for the project.

There are five major activities in the Control Process. Key activities include: 1) measure against the performance measurement baselines; 2) determine variances and if they warrant corrective action or a change; 3) development of a configuration management Plan (CMP) which is used to define processes and procedures that will be used to control product releases; 4) provide team members and customers with the methods, tools and education needed to establish baselines, control changes to the baselines, and record and track statuses; 5) perform integrated change control.

CLOSE-OUT – *Project Close-Out* is an important core process of the project management life cycle and at a minimum consists of administrative close, contract close, and transition. Administrative close includes those administrative activities needed to close the project including project records and project and team performance information. Contract close includes those contractual actions needed to make the contract file complete including records of project deliverables acceptance, vendor performance information, and any other information needed by the procurement officer to close the files. Transition to ongoing operations involves properly turning over the operations of the system to help desk and system operators. Lessons learned and other relevant information is passed on to ensure a smooth ongoing operation of the system.

F. Project Personnel and Resources

The overall implementation and success of the project will be overseen by the Chronicle Executive Steering Committee comprised of members from the Alliance of Educational Agency Heads, District Technology Steering Committees, and key project personnel. In addition to the key project personnel listed below, collaborations between the GaDOE and other state agencies will play an important role in the implementation of this project, particularly with regard to collaborations with the Georgia Technology Authority and the Alliance of Educational Agency Heads (See Appendix A-3 for letters of support). Moreover, exiting relationships with consulting vendors will support implementation activities. The GaDOE will follow all procurement rules of the State of Georgia to develop and obtain technical solutions to meet the needs outlined in this proposal. The Georgia Technology Authority will assist the Department in procuring the services of a private consulting firm to independently verify and validate the execution and delivery of project components.

GaDOE Project Personnel

GaDOE will provide the following personnel to this project and will support their salaries to provide the indicated FTE levels to the project. Qualifications for these resources are detailed within their resumes in Appendix B; while a brief description of project responsibilities are provided below:

Project Sponsor/Executive: Travis Willard, Chief Information Officer (.15 FTE Commitment)

Responsibilities: Ensures the project meets its strategic objectives, makes strategic decisions based on stakeholder input and senior management decisions, ensures the project stays on schedule, serves as the project liaison to the AEAH Technology Steering Committee, supervises the P-20 data exchange components, provides update to state board and other senior management groups, chairs the Project Oversight Committee.

Project Director: Darryl James, Director of Applications Development (.30 FTE Commitment)

Responsibilities: Supervises Chronicle Data Hub Project Manager, Coordinates with Georgia Technology Authority on all technical support and regulatory compliance issues, ensures hardware and software support is available to the project, manages all contract processes, provides technical expertise to support the project, provides updates to senior management.

Project Manager: Bryn Reese, Senior Project Manager (1.0 FTE Commitment)

Responsibilities: Leads day-to-day implementation of the Data Hub, manages overall project development, tracks development on schedule, coordinates release and acceptance activities for all project deliverables, serves as primary point of contact to all project vendors and consultants.

Data Quality Manager: Levette Williams, Director of Data Quality (.50 FTE Commitment)

Responsibilities: Responsible for overall execution of the project's data governance plan, Coordinates activities to ensure viability of a unified data store to meet all local, state, and federal requirements responsible for creation and management of enterprise data dictionary, coordinates development of specifications to drive all data quality edit checks, primary point of contact for all data quality issues.

Decision Support Architect: David Lamitina, Decision Support Architect (.50 FTE Commitment)

Responsibilities: Leads research and data analysis activities, designs and coordinates development of solutions to aid end users in use of data from the system, conducts research to convert system data into actionable information, coordinates analysis services, fulfills analytical data requests, coordinates

and delivers trainings for decision support applications, ensures project components supporting decision support needs are met.

Project Data Architect: Gregory Newcom, Senior Data Architect (.75 FTE Commitment)

Responsibilities: Defines and implements creation, deployment, and management of data models and enterprise-wide metadata for the Chronicle Data Hub, Coordinates ETL processing and implementation of Service Oriented Architecture, Responsible for Data Warehouse Expansion and Management, provides project representation on Change Control Board for Division of Technology Services.

Additional Resources to be Supplied by GaDOE

In addition to provide support to the project by funding salaries for the personnel listed above, GaDOE will contribute the following additional resources to support this project:

- The GaDOE Data Center, which includes backup power supplies, redundant data backup systems, access to the state network and the internet, network administrators, db, sys admins, environmental controls, and security devices.
- GaDOE Help Desk, which provides first tier support for all software applications and services that will exchange data with the Chronicle Data Hub.
- GaDOE Quality Assurance Department, which will provide internal testing of usability, reliability, validity, efficiency, security, and scalability of developed project components.
- GaDOE Educational Training Network, which will coordinate all organizational learning initiatives and facilitate end user training for all system components via the state Educational Training Centers.
- GaDOE IT Operational Staff, who are responsible for communication, coordination, and maintenance of all state data collection activities. Additionally these staff members are responsible for fulfilling public requests for information from existing state data repositories.
- Physical Work Space, which will include telecommunications equipment, office space, and access to conference rooms.
- Existing Enterprise Software Licenses, which include licensing to provide database software (SQL Server and Oracle) and Business Intelligence Toolsets (e.g. Oracle, Reporting Services)

Other Resources

Georgia plans to use funds from the Longitudinal Data System Grant to obtain additional resources required to successfully deliver the described project components. The resources will include:

- Project Personnel through existing relationships with consulting vendors to support development and implementation activities
- New computer equipment to support the described architecture
- New and ongoing software licensing and maintenance for system components
- Project evaluation services to independently verify and validate successful delivery of all project components

Project Narrative

Other Narrative

Attachment 1:

Title: Pages: Uploaded File: 1236-GaDOE LDS Timeline and Appendices 9-25-2008.pdf

Project Timeline

| Initiation | 3/2/2009 | 4/17/2009 |
|---|------------------|------------------|
| Project Request | 3/2/2009 | 3/6/2009 |
| Project Charter | 3/9/2009 | 4/3/2009 |
| Staffing Plan | 4/6/2009 | 4/10/2009 |
| Project Budget | 4/6/2009 | 4/17/2009 |
| Planning | 4/20/2009 | 7/17/2009 |
| Project Definition | 4/20/2009 | 5/1/2009 |
| Establish Steering Committee | 4/20/2009 | 5/15/2009 |
| Business Requirements (High Level) Register | 4/20/2009 | 5/29/2009 |
| Business Design (High Level) | 6/1/2009 | 6/19/2009 |
| Project Management Plan | 5/4/2009 | 6/12/2009 |
| Project Schedule | 5/4/2009 | 5/15/2009 |
| Staff Recruitment | 5/18/2009 | 7/17/2009 |
| Execution | 5/4/2009 | 3/22/2013 |
| Server and Network Infrastructure | 5/4/2009 | 11/6/2009 |
| Detailed Hardware Plan | 5/4/2009 | 6/5/2009 |
| Pilot Infrastructure Configuration | 5/4/2009 | 6/12/2009 |
| Production Infrastructure Procurement | 5/4/2009 | 7/3/2009 |
| Production Infrastructure Installation | 7/6/2009 | 8/14/2009 |
| Production Infrastructure Configuration | 8/17/2009 | 11/6/2009 |
| Data Security Administration | 6/22/2009 | 8/28/2009 |
| Business Design (Detailed) | 6/22/2009 | 7/3/2009 |
| Business Requirements (Detailed) | 6/22/2009 | 6/26/2009 |
| Use Cases | 6/29/2009 | 7/3/2009 |
| Application and User Interfaces | 7/6/2009 | 7/24/2009 |
| System Testing | 7/27/2009 | 8/7/2009 |
| Acceptance Testing | 8/10/2009 | 8/14/2009 |
| Conversion | 8/17/2009 | 8/21/2009 |
| Deployment | 8/24/2009 | 8/28/2009 |
| Enterprise Data Hub | 7/6/2009 | 6/11/2010 |
| Business Design (Detailed) | 7/6/2009 | 7/15/2009 |
| Business Requirements (Detailed) | 7/6/2009 | 8/7/2009 |
| Refine Data Model ODS | 7/6/2009 | 7/31/2009 |
| Refine Data Model Data Warehouse | 8/3/2009 | 8/28/2009 |
| Use Cases | 8/10/2009 | 10/2/2009 |
| Extraction Transformation and Load | 10/5/2009 | 12/11/2009 |
| Application and User Interfaces | 10/5/2009 | 12/11/2009 |
| System Testing | 12/14/2009 | 3/5/2010 |
| Acceptance Testing | 3/8/2010 | 4/16/2010 |
| Conversion | 4/19/2010 | 5/28/2010 |
| Deployment | 5/31/2010 | 6/11/2010 |
| | 7/20/2009 | 11/6/2009 |

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|---|------------------|-------------------|
| Data Submission Application | | |
| Business Design (Detailed) | 7/20/2009 | 7/24/2009 |
| Business Requirements (Detailed) | 7/20/2009 | 8/7/2009 |
| Use Cases | 8/10/2009 | 8/28/2009 |
| Extraction Transformation and Load | 8/31/2009 | 9/25/2009 |
| Application and User Interfaces | 8/31/2009 | 9/11/2009 |
| System Testing | 9/14/2009 | 9/25/2009 |
| Acceptance Testing | 9/28/2009 | 11/6/2009 |
| Data Validation Framework | | |
| | 8/3/2009 | 11/13/2009 |
| Business Design (Detailed) | 8/3/2009 | 8/14/2009 |
| Business Requirements (Detailed) | 8/3/2009 | 8/28/2009 |
| Data Modeling ODS | 8/3/2009 | 8/7/2009 |
| Use Cases | 8/31/2009 | 9/11/2009 |
| Extraction Transformation and Load | 9/14/2009 | 10/2/2009 |
| Application and User Interfaces | 9/14/2009 | 10/9/2009 |
| System Testing | 10/12/2009 | 10/30/2009 |
| Acceptance Testing | 11/2/2009 | 11/13/2009 |
| Data Integration Engine | | |
| | 8/17/2009 | 10/15/2010 |
| Business Design (Detailed) | 8/17/2009 | 8/28/2009 |
| Business Requirements (Detailed) | 8/17/2009 | 9/18/2009 |
| Data Modeling ODS | 8/17/2009 | 9/11/2009 |
| Data Modeling Data Warehouse | 9/14/2009 | 10/9/2009 |
| Use Cases | 9/21/2009 | 11/13/2009 |
| Extraction Transformation and Load | 11/16/2009 | 12/4/2009 |
| Application and User Interfaces | 11/16/2009 | 3/19/2010 |
| System Testing | 3/22/2010 | 6/11/2010 |
| Acceptance Testing | 6/14/2010 | 7/23/2010 |
| Conversion | 7/26/2010 | 9/3/2010 |
| Deployment | 9/6/2010 | 10/15/2010 |
| Enterprise Data Dictionary | | |
| | 6/14/2010 | 4/1/2011 |
| Business Design & Requirements (Detailed) | 6/14/2010 | 6/25/2010 |
| Use Cases | 6/28/2010 | 7/23/2010 |
| Extraction Transformation and Load | 7/26/2010 | 8/13/2010 |
| Application and User Interfaces | 7/26/2010 | 11/26/2010 |
| System Testing | 11/29/2010 | 2/18/2011 |
| Acceptance Testing | 2/21/2011 | 4/1/2011 |
| Unique ID Matching Engine | | |
| | 11/9/2009 | 11/26/2010 |
| Business Design (Detailed) | 11/9/2009 | 11/20/2009 |
| Business Requirements (Detailed) | 11/9/2009 | 11/27/2009 |
| Data Modeling ODS | 11/9/2009 | 11/20/2009 |
| Use Cases | 11/30/2009 | 1/1/2010 |
| Extraction Transformation and Load | 1/4/2010 | 1/22/2010 |
| Application and User Interfaces | 1/4/2010 | 1/8/2010 |
| System Testing | 1/11/2010 | 4/2/2010 |
| Acceptance Testing | 4/5/2010 | 5/14/2010 |
| Conversion | 5/17/2010 | 6/11/2010 |
| Deployment | 6/14/2010 | 7/23/2010 |

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|--|-------------------|------------------|
| Training | 7/26/2010 | 11/26/2010 |
| Operations and Administration Console | 10/18/2010 | 2/25/2011 |
| Business Design (Detailed) | 10/18/2010 | 10/29/2010 |
| Business Requirements (Detailed) | 10/18/2010 | 11/19/2010 |
| Data Modeling | 10/18/2010 | 10/20/2010 |
| Use Cases | 11/22/2010 | 12/10/2010 |
| Application and User Interfaces | 12/13/2010 | 1/14/2011 |
| System Testing | 1/17/2011 | 2/4/2011 |
| Acceptance Testing | 2/7/2011 | 2/18/2011 |
| Deployment | 2/21/2011 | 2/25/2011 |
| Business Intelligence Services | 4/4/2011 | 4/20/2012 |
| Business Design (Detailed) | 4/4/2011 | 4/15/2011 |
| Business Requirements (Detailed) | 4/4/2011 | 5/6/2011 |
| Data Modeling | 4/4/2011 | 4/29/2011 |
| Use Cases | 5/9/2011 | 7/1/2011 |
| Extraction Transformation and Load | 7/4/2011 | 7/22/2011 |
| Application and User Interfaces | 7/4/2011 | 11/4/2011 |
| System Testing | 11/7/2011 | 1/27/2012 |
| Acceptance Testing | 1/30/2012 | 3/9/2012 |
| Deployment | 3/12/2012 | 4/20/2012 |
| Cohort Management Application | 11/29/2010 | 1/27/2012 |
| Business Design (Detailed) | 11/29/2010 | 12/10/2010 |
| Business Requirements (Detailed) | 11/29/2010 | 12/31/2010 |
| Data Modeling Data Warehouse | 1/3/2011 | 1/28/2011 |
| Use Cases | 1/3/2011 | 2/25/2011 |
| Extraction Transformation and Load | 2/28/2011 | 3/18/2011 |
| Application and User Interfaces | 2/28/2011 | 7/1/2011 |
| System Testing | 7/4/2011 | 9/23/2011 |
| Acceptance Testing | 9/26/2011 | 11/4/2011 |
| Conversion | 11/7/2011 | 12/16/2011 |
| Deployment | 12/19/2011 | 1/27/2012 |
| Information Exchange Web Service | 2/28/2011 | 4/27/2012 |
| Business Design (Detailed) | 2/28/2011 | 3/11/2011 |
| Business Requirements (Detailed) | 2/28/2011 | 4/1/2011 |
| Data Modeling | 2/28/2011 | 3/25/2011 |
| Use Cases | 4/4/2011 | 5/27/2011 |
| Extraction Transformation and Load | 5/30/2011 | 6/17/2011 |
| Application and User Interfaces | 5/30/2011 | 9/30/2011 |
| System Testing | 10/3/2011 | 12/23/2011 |
| Acceptance Testing | 12/26/2011 | 2/3/2012 |
| Conversion | 2/6/2012 | 3/16/2012 |
| Deployment | 3/19/2012 | 4/27/2012 |
| Pilot Deployment | 11/9/2009 | 9/17/2010 |
| SASI Districts (45) | 11/9/2009 | 9/17/2010 |
| Infinite Campus Districts (10) | 11/9/2009 | 1/15/2010 |
| PowerSchool Districts (20) | 1/18/2010 | 6/4/2010 |
| School Max Districts (13) | 11/9/2009 | 2/5/2010 |
| STI Districts (1) | 2/8/2010 | 3/5/2010 |

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| In House Districts (2) | 3/8/2010 | 4/30/2010 |
| Parallel Deployment | 11/29/2010 | 10/7/2011 |
| SASI Districts (45) | 11/29/2010 | 10/7/2011 |
| Infinite Campus Districts (9) | 11/29/2010 | 1/28/2011 |
| PowerSchool Districts (21) | 1/31/2011 | 6/24/2011 |
| School Max Districts (13) | 11/29/2010 | 2/25/2011 |
| Century Districts (1) | 2/28/2011 | 3/25/2011 |
| In House Districts (2) | 3/28/2011 | 5/20/2011 |
| Retrofit Legacy Applications | 6/14/2010 | 3/22/2013 |
| AYP Annual Report | 6/14/2010 | 5/6/2011 |
| Business Design (Detailed) | 6/14/2010 | 6/25/2010 |
| Business Requirements (Detailed) | 6/14/2010 | 7/16/2010 |
| Data Modeling | 6/14/2010 | 7/9/2010 |
| Use Cases | 7/19/2010 | 9/10/2010 |
| Extraction Transformation and Load | 9/13/2010 | 11/5/2010 |
| Application and User Interfaces | 9/13/2010 | 11/19/2010 |
| System Testing | 11/22/2010 | 2/11/2011 |
| Acceptance Testing | 2/14/2011 | 3/25/2011 |
| Conversion | 3/28/2011 | 4/15/2011 |
| Deployment | 4/18/2011 | 5/6/2011 |
| School Report Card | 5/9/2011 | 3/9/2012 |
| Business Design (Detailed) | 5/9/2011 | 5/20/2011 |
| Business Requirements (Detailed) | 5/9/2011 | 6/10/2011 |
| Data Modeling | 5/9/2011 | 6/3/2011 |
| Use Cases | 6/13/2011 | 8/5/2011 |
| Extraction Transformation and Load | 8/8/2011 | 9/9/2011 |
| Application and User Interfaces | 8/8/2011 | 10/28/2011 |
| System Testing | 10/31/2011 | 11/25/2011 |
| Acceptance Testing | 11/28/2011 | 1/6/2012 |
| Conversion | 1/9/2012 | 2/17/2012 |
| Deployment | 2/20/2012 | 3/9/2012 |
| Special Education Annual Report | 5/9/2011 | 7/6/2012 |
| Business Design (Detailed) | 5/9/2011 | 5/20/2011 |
| Business Requirements (Detailed) | 5/9/2011 | 6/10/2011 |
| Data Modeling | 5/9/2011 | 6/3/2011 |
| Use Cases | 6/13/2011 | 8/5/2011 |
| Extraction Transformation and Load | 8/8/2011 | 8/26/2011 |
| Application and User Interfaces | 8/8/2011 | 12/9/2011 |
| System Testing | 12/12/2011 | 3/2/2012 |
| Acceptance Testing | 3/5/2012 | 4/13/2012 |
| Conversion | 4/16/2012 | 5/25/2012 |
| Deployment | 5/28/2012 | 7/6/2012 |
| Title I Programs Annual Report | 3/12/2012 | 6/29/2012 |
| Business Design (Detailed) | 3/12/2012 | 3/16/2012 |
| Business Requirements (Detailed) | 3/12/2012 | 3/30/2012 |
| Data Modeling | 3/12/2012 | 3/16/2012 |
| Use Cases | 4/2/2012 | 4/20/2012 |

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|--|-------------------|-------------------|
| Extraction Transformation and Load | 4/23/2012 | 5/4/2012 |
| Application and User Interfaces | 4/23/2012 | 5/18/2012 |
| System Testing | 5/21/2012 | 6/1/2012 |
| Acceptance Testing | 6/4/2012 | 6/15/2012 |
| Conversion | 6/18/2012 | 6/22/2012 |
| Deployment | 6/25/2012 | 6/29/2012 |
| Career Tech Annual Report | 7/2/2012 | 10/26/2012 |
| Business Design (Detailed) | 7/2/2012 | 7/6/2012 |
| Business Requirements (Detailed) | 7/2/2012 | 7/20/2012 |
| Data Modeling | 7/2/2012 | 7/6/2012 |
| Use Cases | 7/23/2012 | 8/10/2012 |
| Extraction Transformation and Load | 8/13/2012 | 8/31/2012 |
| Application and User Interfaces | 8/13/2012 | 9/7/2012 |
| System Testing | 9/10/2012 | 9/21/2012 |
| Acceptance Testing | 9/24/2012 | 10/5/2012 |
| Conversion | 10/8/2012 | 10/19/2012 |
| Deployment | 10/22/2012 | 10/26/2012 |
| Charter Schools | 10/29/2012 | 3/22/2013 |
| Business Design (Detailed) | 10/29/2012 | 11/2/2012 |
| Business Requirements (Detailed) | 10/29/2012 | 11/9/2012 |
| Data Modeling | 10/29/2012 | 11/2/2012 |
| Use Cases | 11/12/2012 | 11/30/2012 |
| Extraction Transformation and Load | 12/3/2012 | 12/14/2012 |
| Application and User Interfaces | 12/3/2012 | 1/11/2013 |
| System Testing | 1/14/2013 | 2/1/2013 |
| Acceptance Testing | 2/4/2013 | 2/22/2013 |
| Conversion | 2/25/2013 | 3/8/2013 |
| Deployment | 3/11/2013 | 3/22/2013 |
| Control | 3/2/2009 | 3/6/2013 |
| Establish Project Control and Reporting Mechanisms | 5/4/2009 | 5/22/2009 |
| Manage Project Year 1 | 3/2/2009 | 3/2/2010 |
| Manage Project Year 2 | 3/3/2010 | 3/3/2011 |
| Manage Project Year 3 | 3/4/2011 | 3/5/2012 |
| Manage Project Year 4 | 3/6/2012 | 3/6/2013 |
| System and Network Administration | 5/4/2009 | 3/1/2013 |
| Closeout | 3/25/2013 | 5/31/2013 |
| Transition to Operations Plan | 3/25/2013 | 4/19/2013 |
| Lessons Learned and Recommendations | 4/22/2013 | 5/17/2013 |
| Administrative Close | 5/20/2013 | 5/24/2013 |
| Contract Close | 5/27/2013 | 5/31/2013 |

Appendix A-1: Description of GaDOE Decision Support, Analysis, & Reporting Applications

GaDOE Strategic Planning Framework

One of the most visible applications that Technology Services has developed to support state department decisions is the GaDOE Strategic Framework. The Strategic Framework was designed to align, monitor, and evaluate activities supporting the Department's Strategic Plan. The Strategic Framework provides a consolidated location for stakeholders to access indicators and performance measures for each of the Department's 15 strategic goals. The Framework provides a Dashboard and a Scorecard for each goal.

Each goal's dashboard provides an inventory of strategies and initiatives that the department is executing to support achievement of the respective goal. Initiatives include key performance measures that enable consumers to monitor execution of initiatives and track progress toward reaching end of year targets. In contrast, scorecards include multiyear indicators to evaluate both progress and status in achieving each of the department's strategic goals. Historical indicator values are available for up to 4 years, providing trends on different dimensions of the strategic goal.

Released in fall 2007, the Strategic Framework has been well received and is cited as an influential resource in the department's efforts to align and coordinate work across all departments and divisions. The depth and breadth of the Strategic framework provide a robust source of information for policy makers and program managers to evaluate the Department's efforts. The Framework currently contains 15 goals, 96 strategies, 314 initiatives, 482 performance measures, and 414 indicators. Performance measures and indicators comprise 896 discrete measures, which are calculated on a monthly, quarterly, semiannual, or annual basis.

Maintaining such a vast amount of data has required the dedication of numerous GaDOE resources. As a result, the Department is exploring opportunities to automate production of as many measures in the Strategic Framework as possible. The Chronicle Data Hub will serve as an integral data source to supply the Strategic Framework with performance measure and indicator values to monitor and evaluate attainment of the Department's Strategic Plan.

Governor's Office of Student Achievement Scoreboard and Report Card

Georgia's Education Scoreboard, conceived by Governor Perdue and developed by GOSA, provides education stakeholders, i.e. parents, educators, business and government leaders, and community-based organizations, with a straightforward indication of student achievement in Georgia, from pre-kindergarten through postsecondary education.

Just as a scoreboard in an athletic competition provides fans with an at-a-glance status report, the Education Scoreboard provide stakeholders with meaningful, concise, transparent data on the quality and progress of education in Georgia. It is intended to:

- Highlight to educators and parents areas in education that are especially important on which to focus
- Encourage education institutions to gauge their progress in raising student achievement as compared with other Georgia institutions, other states, and the nation
- Compel schools, colleges, and universities to implement improvement practices as necessary

- Provide businesses and families interested in moving to Georgia with clear data on the quality of education from preschool to college
- Impel all stakeholders to greater advocacy in creating quality education options in their communities
- Grow a state culture that demands continuous educational improvement.

Georgia's K-12 Report Card contains test results as well as other information relevant to schools and their performance toward the goals of student achievement and school completion and is compliant with both state and federal (No Child Left Behind Act of 2001) laws with respect to Report Card reporting requirements. Other portions were collected by GOSA from other entities in order to provide a comprehensive view of the schools, systems, and the state. GOSA, along with a large committee of stakeholders in the education communities from around the state, continues to forge ahead with establishing Georgia's Single Statewide Accountability System (SSAS) for K-12 public schools that merges federal law with state law. GOSA also produces Report Cards for the University System of Georgia, the Technical College System of Georgia, the Georgia Department of Early Care and Learning (pre-k), and the Georgia Professional Standards Commission (teacher certification).

Both the Scoreboard and Report Card projects will benefit from GADOE's proposed Data Hub by enabling nearly all of the data required from both projects to be compiled from one source in a much more efficient manner. Currently, the data from both projects is often pulled together one file at a time from separate agencies' data systems. Some elements require data matches from multiple agencies; one enterprise Data Hub would greatly streamline both projects in terms of time and would reduce the potential for errors caused by merging data from multiple systems.

NCLB and Adequate Yearly Progress

In accordance with the No Child Left Behind Act of 2001 Act, the Department conducts annual evaluations of all schools, LEAs, and the State department to determine whether each entity is making adequate yearly progress toward the goal of eliminating achievement gaps and ensuring that all students are proficient in language arts and mathematics by the end of the 2013-2014 school year. Since developing the original system in 2003, Georgia has consistently been among the earliest reporting states for AYP results. Additionally, quality control mechanisms built into the system have resulted in a steady reduction in the number of appeals submitted by schools and districts.

In July, Georgia was approved to amend its Single Statewide Accountability System to include provisions for Differentiated Accountability. Georgia's plan for implementing differentiated accountability focuses on providing escalating levels of support to address the unique needs of schools and districts that progress into more significant levels of AYP needs improvement status. Georgia's plan for differentiated accountability is predicated on the assumption that the state accountability system reflects the effectiveness of instructional efforts to raise student achievement. To compliment this plan, the department anticipates augmenting its existing accountability system with growth-based measures of student achievement that provide additional sensitivity to the effectiveness of instructional efforts.

To facilitate adding a component of growth to Georgia's Statewide Accountability System, the Chronicle Data Hub will be used to facilitate longitudinal analyses, while still enabling the Department to meet its mandated timelines for accountability reporting. Our current infrastructure supporting AYP analyses is not conducive to support growth based analyses that span multiple years

of data. Additionally, the Chronicle Data Hub is an important component in providing improvement teams with information about the relative strengths, weakness, and needs of the *current* population of students being served by a school. Current school improvement planning is currently limited by reports and analyses that focus on the historical performance of students; many of whom no longer attend the respective school.

Chronicle represents a paradigm shift in our data infrastructure from one that is oriented around annual events to one that is designed around students. As such, the analyses and reporting that Chronicle will be able to facilitate in support of NCLB and AYP can bridge the current formative/summative reporting gap. This could include new tools such as AYP forecast reports that would leverage the Chronicle Data Hub to re-roster students' historical assessment results into their current schools to forecast anticipated AYP outcomes. Additionally, the hub can assist in studying linkages between formative and summative measures to better monitor and adjust instructional practices throughout the year. In sum, Chronicle will enable the Department to study growth in student achievement and identify models of instructional effectiveness.

Graduation Coach Work Management System

The Georgia Department of Education administers a statewide Graduation Coach program to identify and provide preventative/ intervention services to students at risk of dropping out or otherwise not graduating. The program was initiated in the 2006-2007 school year and provides a graduation coach to every Georgia public high school and middle school. Technology Services developed the Graduation Coach Work Management system to support the reporting and analysis needs of the program.

The WMS enables users to access longitudinal information for all currently enrolled students. Users are able to access, sort, and filter student rosters to aid in the identification of students that may be at risk of dropping out or otherwise not earning a standard high school diploma. Tracking up to 23 factors which may place a student as at-risk of not graduating or dropping out, the Candidate Roster feature has enabled coaches to spend more time planning and delivering intervention services and less time identifying students that may benefit from their services.

However, the timeliness of data available at the state level limits the utility of the application. The lack of a regularly updated data store containing longitudinal student performance data prevented the department from being able to refresh the candidate roster information more than twice during the 2007-2008 school year. With the Chronicle Data Hub in place, the Graduation Coach application will be modified to leverage the Service Oriented Architecture to retrieve student information. With this approach, roster information provided by the application will be updated nightly and coaches will be able to assess newly enrolled students.

Student Profile

Released at the beginning of the 2008-2009 school year, the GaDOE Student Profile combines student data collected from numerous state data sources to provide instructional staff with a longitudinal record of transcript-like information for their students. Each student with an actively assigned State Unique Student Identifier possess a student profile which contains a longitudinal record of reported demographics, program participations, enrollments and withdrawals, course grades, course schedule, and assessment scores dating back to the 2006-2007 school year.

Instructional resources use the information contained within the Student Profile report to help identify student's historical record to identify relative strengths and weaknesses, corroborate

professional judgments regarding areas of need, and assist in the development of individualized instructional approaches. Additionally student support personnel use the Profile to assist in evaluation and placement of newly enrolled transfer students and identification of potential barriers that students face in graduating with a standard high school diploma within four years of entering 0th grade.

The profile includes access controls that limit the student records that educational personnel may access. The system relies heavily upon the State Unique Identification System to determine which school a student is currently claimed within and which personnel may access a student's profile. Retrieval of a student profile is logged to support audit of instructional staff that retrieve a student's longitudinal record.

However, the student profile is currently limited by the frequency that elements contained within the profile are collected. For example, the profile for newly enrolled students is not available to school personnel until the student had been claimed by their new school in the State Unique Identifier system. Most systems historically update these claims only 3 times per year to facilitate mandated reporting cycles. Further, the content of the profile is historically focused; attendance values in the profile reflect student attendance for the previous school years.

The proposed Chronicle Data Hub will provide a source of timely data to enable instructional staff with timely access to newly enrolled student. The nightly collection schedule of LEA and SEA data exchange will enable the hub to provide the profile with current school year measures such as attendance, program participation, and course schedules. This information is critical to enable support staff with information to monitor their current student populations, identify emerging areas of need, and plan interventions to address the needs of their current student population.

Policy Analysis and Research Support

Additionally, the Data Hub will serve as an important repository to facilitate policy analyses and conduct longitudinal research. The Chronicle Data Hub will contain longitudinal data on every district, school, teacher, and student in the Georgia public school system. In addition, the Data Hub will include datasets from other state educational agencies. By pooling these resources and standardizing data across datasets, the Data Hub will be able to provide a wide variety of information from the student level to the state level.

For students, this information will include test scores, program participation, demographics, course grades, enrollment and withdrawal transactions including graduation, promotion, retention, and dropout. For teachers, this information will include information such as degree obtained, salary, work history, licensure, and whether they are teaching in their field. For schools, this information will include building/facility information, grade level configuration, school dropout/graduation rates, school enrollment sizes, and state accountability system status. For districts, this information includes district composition, district finances (revenues and expenditures), and accountability system status.

One of the major contributions of the Data Hub will be its ability to produce longitudinal student and teacher datasets, which allow researchers to study students and teachers over time and link their records across files. For example, teacher qualifications can be linked to student academic performance to enable value-added analyses. One of the major criteria of success for the Data Hub will be in its ability to make data accessible to analysts, researchers, and program managers. Because of the size and complexity of the datasets, program staff work with data consumers to develop smaller working data files and data marts for individual research projects as needed. Additionally,

the cohort tracking application will enable researchers to match student and teacher records to project datasets; for example, matching student test scores to a list of students participating in a certain program to support program evaluation.

Appendix A-2: Description of Existing Educational Governance Groups

District Data Advisory Council

Formed in 2007, the District Data Advisory Council consists of Technology Directors, Financial System Administrators, and Student Data Managers from Georgia LEAs with the objective of collaborating with the State Department of Education on data collection, reporting, and analysis initiatives. The committee works to build consistency and quality control through recommended policies and procedures supporting state data systems. This organization also provides feedback on the feasibility and value of proposed State data system enhancements and is a key contributor to the strategic planning of the State Department.

Membership on the Advisory Council is open to all LEAs and leadership of the council is voted on by participating members. The Advisory Council meets as a whole every other month, with breakout meeting for specific content groups (e.g. Technology Infrastructure, Instructional Data Systems, Student Data, and Financial Data Systems) to discuss more specific issues. The District Data Advisory council will provide the primary mechanism for districts to shape and influence the development of state policies supporting Georgia's New Longitudinal Data System.

Georgia Data Vendor Network

Through a series of regular conference calls, the Department has taken steps to provide early notice and solicit feedback from private vendors that administer systems to collect and report K-12 educational data. On a regular basis, the Department hosts SIS vendor calls to discuss changes in the collection of educational data at the state level. Both LEA and SIS representatives participate in these calls and provide critical feedback on the feasibility and timing of newly mandated data collections.

Additionally, the department works with other third party data vendors like the State's assessment vendors, the College Board, ACT, and the National Transcript Reporting Center to coordinate the collection of state data to support state and federally mandated reporting. The Georgia Department of Education's Division of Assessment and Accountability, the Georgia Student Finance Commission, Georgia College 411, and the Governor's Office of Student Achievement collaborate with Technology Services to regulate policies and procedures that ensure the availability of timely and accurate data.

Alliance of Educational Agency Heads – Technology Steering Committee

The third group of stakeholders that will provide oversight to the project is the Technology Steering Committee for the Alliance of Educational Agency Heads. Comprised of Technology leaders from each of the Alliance member agencies, this group meets frequently to discuss technology issues that impact Georgia's public education system. Members of this group are designated by their respective agency's chief.

Appendix A-3: Letters of Support



STATE OF GEORGIA

OFFICE OF THE GOVERNOR

ATLANTA 30334-0900

Sonny Perdue
GOVERNOR

September 23, 2008

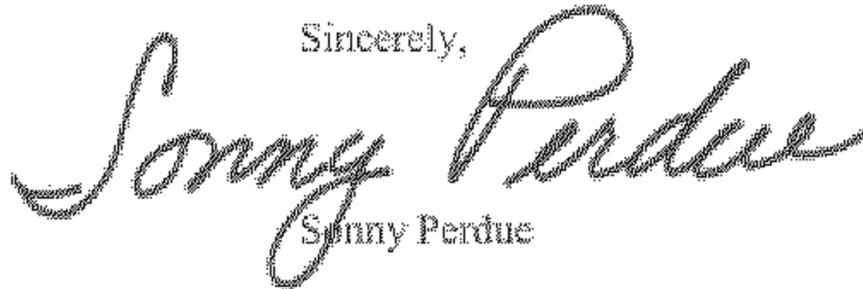
To Whom It May Concern,

Thank you for considering the State of Georgia for the Statewide Longitudinal Data System Grant. If selected, The Department of Education would use these funds to establish a new infrastructure that will manage the exchange, integration, analysis, and reporting of educational data for the State of Georgia.

Education has always been a top priority for the State of Georgia and will remain so in the future. The implementation of the proposed Chronicle project will allow the State to more effectively monitor both student and teacher achievements and progress. By working together, we can create a better Georgia for today's population and for many future generations to come.

I appreciate your fair and appropriate consideration of the Statewide Longitudinal Data System 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 on this matter.

Sincerely,


Sonny Perdue



Governor's Office of Student Achievement

205 Jesse Hill Jr. Drive, 1554 Twin Towers East
Atlanta, Georgia 30334-5080
404.463.1150 FAX: 404.463.1163

Jennifer Rippner
Executive Director

Sonny Perdue
Governor

September 19, 2008

To Whom It May Concern:

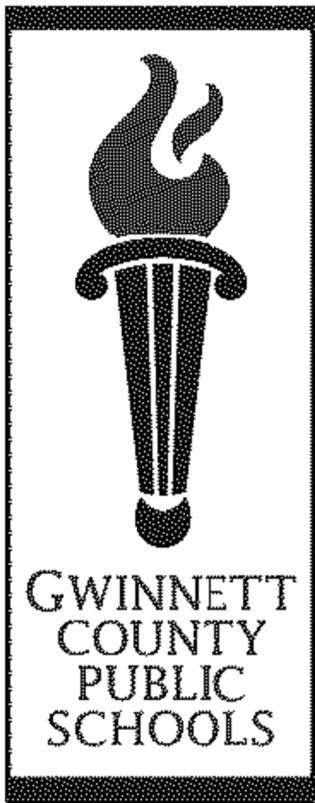
The Governor's Office of Student Achievement (GOSA), under the direction of Governor Sonny Perdue, supports the Georgia Department of Education's Statewide Longitudinal Data System Grant application. GOSA's mission is to increase student achievement and school completion across Georgia through meaningful, transparent, and objective analysis and communication of statewide data. GOSA also functions as the independent accountability organization for all of Georgia's education agencies. In addition, GOSA provides policy support to the Governor and, ultimately, to the citizens of Georgia through:

- An education scoreboard that forthrightly indicates the effectiveness of Georgia's education institutions, from Pre-K through college;
- Research initiatives on education programs in Georgia and corresponding findings to inform policy, budget, and legislative efforts;
- Thorough analysis and straightforward communication of education data to stakeholders;
- Audits of academic programs to ensure that education institutions are fiscally responsible with state funds and faithful to performance accountability requirements

The Chronicle LDS will improve GOSA's ability to improve Georgia's Education Scoreboard with more detailed data in order to communicate with the public about the state of education in Georgia, to conduct more interagency research projects, and to more efficiently and accurately conduct academic and attendance audits of Georgia's public schools. The Georgia Department of Education's Office of Technology Services has the capacity to successfully create and implement this system and GOSA enthusiastically supports this application.

Sincerely,

Jennifer Rippner Buck
Executive Director



September 24, 2008

To Whom It May Concern:

I am writing on behalf of Gwinnett County Schools to express our support for the Georgia Department of Education's application to the U.S. Department of Education for creation of a statewide longitudinal data system. We recognize the value of using data as a key instrument in improving student achievement throughout Gwinnett. We are excited by the potential to have access to data that will assist us as we collaborate with our early childhood and post secondary educational partners to ensure all students achieve their highest academic potential. The system will enable us to more efficiently measure the effectiveness of our curricular programs, identify effective practices that lead to long term success, and improve the continuity of services provided to students as they progress through their academic careers. The proposed Data Hub will provide much needed data to inform the decision making of leaders across the district.

Gwinnett County Schools is excited to support the Georgia Department of Education's proposed Chronicle Longitudinal Data System. If there is anything we can do to support your application, please let me know. The work proposed for this grant is critically important to support our efforts to lead the Nation in the improvement of student achievement.

Sincerely,

E. Scott Futrell
Chief Information Officer

**GWINNETT COUNTY
BOARD OF EDUCATION**

Carole Boyce
Chairman
District I

Daniel D. Seckinger
Vice Chairman
District II

Dr. Robert McClure
District IV

Dr. Mary Kay Murphy
District III

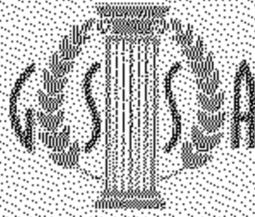
Louise Radloff
District V

J. Alvin Wilbanks
CEO/Superintendent

**THE MISSION OF
GWINNETT COUNTY
PUBLIC SCHOOLS**
*is to pursue excellence
in academic knowledge,
skills, and behavior
for each student,
resulting in measured
improvement against
local, national, and
world-class standards.*

437 Old Peachtree Road, NW
Suwanee, GA 30024-2978
678-301-6000
www.gwinnett.k12.ga.us

It is the policy of Gwinnett County Public Schools
not to discriminate on the basis of race, color, sex,
religion, national origin, age, or disability in any
employment practice, educational program, or any
other program, activity or service.



GEORGIA SCHOOL SUPERINTENDENTS ASSOCIATION

September 25, 2008

To whom it may concern:

I am writing on behalf of the Georgia School Superintendents Association to express our support for the Georgia Department of Education's application to the U.S. Department of Education for creation of a statewide longitudinal data system. Superintendents in Georgia recognize the value of using data as a key instrument in improving student achievement throughout Georgia. We are excited by the potential to have access to data that will assist us as we collaborate with our early childhood and post secondary educational partners to ensure all students achieve their highest academic potential. The system will enable us to more efficiently measure the effectiveness of our curricular programs, identify effective practices that lead to long term success, and improve the continuity of services provided to students as they progress through their academic careers. The proposed Data Hub will provide much needed data to inform the decision making of superintendents across the State.

The Georgia School Superintendents Association is excited to support the Georgia Department of Education's proposed Chronicle Longitudinal Data System. If there is anything we can do to support your application, please let me know. The work proposed for this grant is critically important to support our efforts to lead the Nation in the improvement of student achievement.

Sincerely,

Herbert W. Garrett
Executive Director



Office of the State Superintendent of Schools

Kathy Cox, State Superintendent of Schools

September 24, 2008

Dr. Tate Gould
Institute of Education Sciences
National Center for Education Statistics
1990 K Street, Rm. 9023
Washington, DC 20006-5651

Dear Dr. Gould:

Thank you for considering the State of Georgia for the Statewide Longitudinal Data System Grant. Our state recognizes the value of high-quality data as a key instrument in improving student achievement throughout Georgia. We have made a lot of progress in using data to drive instruction and decision-making at the school, system and state levels.

If we are chosen to receive this grant, the Georgia Department of Education will use these funds to help establish a new infrastructure that will manage the exchange, integration, analysis, and reporting of education data for the state.

We are excited about sharing and accessing data that will assist us as we collaborate with our educational partners to ensure all students achieve their highest academic potential. The work this grant will support is critically important to our efforts to lead the nation in improving student achievement.

Respectfully,

Kathy Cox

KC/jg

Appendix B: Resumes for Key Project Personnel

Travis Willard

Summary of Qualifications

Energetic and results-oriented CIO with experience integrating technology into the business. Proven ability to conceptualize and deliver complex technology solutions. Provide leadership and advice to senior management on technology in a variety of industries such as public service, insurance, education, software development, financial services, and healthcare. Dynamic career with strong leadership, problem solving, planning, team building and project management skills. Strong record of success in managing complex portfolios of IT investments across organizational and geographical boundaries. Successful history of providing strategic leadership for enterprise-wide technology initiatives.

Education

- **Master's Degree** (12/1996) Mercer University, Atlanta, Georgia
- **Bachelor's Degree** (5/1995) Mercer University, Macon, Georgia

Work Experience

Chief Information Officer / Deputy Superintendent for Technology 1/2007 - Present Georgia Department of Education, Atlanta, GA

- Provide executive leadership and change management for establishing agency-wide policy for implementing comprehensive Instructional and administrative technology directives and weaving them into supporting overall agency business practices.
- Completed Implementation of the Statewide Student Information System
- Envisioned and implemented new reporting framework for delivery of data warehouse information in a user friendly interface
- Worked closely with the Office of Audits in the interpretation of federal and state regulations and subsequently engineered the integration of new e-filing capabilities to support file retention and ediscovery
- Developed the vision, technical design and implemented a new DOE Web,
- Directed an agency wide team that delivered data mining solutions merging data from the 180 school districts and 6 state agencies.
- Led critical implementation of Project Management Office (PMO) and IT Governance processes to control IT spend and "demystify" IT processes
- Developed strategic plans to align technology initiatives and budget dollars to support mission critical needs of the agency.
- Launched a Cybersecurity protocols and implemented security policies & procedures that focused on upgrading firewall, network, virus/spam protection tools, messaging systems and protection of agency sensitive information.
- Established an enterprise Project Management Oversight Committee comprised of senior managers to ensure proper oversight of all project portfolios.

- Established Technology Steering Committee to advise DOE on new technology initiatives and create best practices

Director of Software Development

9/2004 - 12/2006 Georgia Department of Education, Atlanta, GA

- Created a vision for the Department of Education to deliver applications faster and with fewer resources. Created a single sign-on portal for the delivery of all applications. Seventeen applications in all were reworked over six months to fit the common framework.
- Re-engineered application for tracking all school facility information including architectural blueprints and images
- Created a role-based security model for Single Sign On and provisioning
- Created a web-based document management system to support over 50K documents
- Created a key performance indicators for measuring student achievement
- Converted applications from Oracle Forms to .Net
- Successfully rolled out SQL Server 2005
- Environment: Microsoft .NET, XML, XSL, C#, Jscript, SQL Server 2000, MOLAP, Data Migration, ETL, Erwin, Embarcadero, Stored Procedures, Triggers, TSQL, Data Modeling, Oracle 9i, Oracle 9i AS, Rational Unified Process, Clear Case, Clear Quest, Cognos Series 7, MS Analysis Services, MS Sharepoint Services, SQL Server 2005, VS 2005, .Net 2.0, SCRUM

Chief Technology Officer

3/2003 - 8/2004 Genera Systems, Scottsdale, AZ

- Responsible for the direction of all application development and corporate infrastructure. Genera Systems specializes in custom software development utilizing Microsoft SQL Server and the .Net Framework. A rapid application development methodology was used to keep project costs down while quickly delivering quality applications to clients.
- Accomplishments: Responsible for all custom development projects. Successfully led the development of a re-design project for a residential portal and E-Commerce website. Using SQL Server and the Microsoft .Net Framework, the site was rewritten to cut cost, diminish the required time to launch a new site and to enforce referential integrity that had been lacking in the previous application. The client, one of the largest home builders in California, wanted a large online marketplace where residents and businesses could interact. As a result, the cost structure was reduced by 500% and the time to launch was reduced from 500 hours to 8.
- Other projects involved:
 - Development of an XML based metadata engine,
 - Development of a closed loop system for tracking trouble tickets,
 - Document Management and paperless enrollment system for a Health Care Organization (HCO),
 - Development of an OLAP system for tracking claims and losses
 - Development of a program for state school meal reimbursements
 - Development of a .Net Web Service for the integration of Genera software with Microsoft CRM and SalesLogix using SOAP
 - Using the COBIT methodology, developed Single Signon process to provision all user accounts for internal applications at Intel
 - Environment: Microsoft .NET, XML, XSL, SQL Server 2000, IMAIL, Microsoft Sharepoint, COBIT, Commerce Server, Microsoft CRM, SalesLogix, OLAP, EDI, SQL Server Clustering, RAD, JAD, SOAP, Jscript, ADO.Net, Stored Procedures, Triggers, TSQL, Data Modeling, Object-Oriented Design
 - Clients included: Intel, Blue Cross of California, California State Fund, Tokyo Marine, Diversified Human Resources, Intellicommunities, Microsoft.

Chief Technology Officer

10/2001 - 3/2003 Human Dynamics Corporation, Mesa, AZ

- Responsible for the direction and management of the Company's technology directives, including development of IT vision and mission statements, creation and adherence to budgets, and a hands-on approach to day-to-day application development and corporate infrastructure. Accomplishments: Led the migration from Novell Netware to Microsoft 2000 and from Lotus Notes to Microsoft Exchange. Architected and implemented the company's fully redundant co-location facility. Architected and developed numerous web-based sites using Microsoft.Net and SQL Server 2000.
- Sites included:
 - A Task/Change Management System,
 - Customer Relationship Management (CRM) system,
 - Payroll Processing system,
 - Legal Document Storage and retrieval system
 - An automated Accord application system for submission of Workers Compensation insurance quotes and policy issuance,
 - Decision Support System for tracking claim losses.

Environment: Microsoft .NET, XML, XSL, C#, Jscript, SQL Server 2000, Exchange 2000, MOLAP, Data Migration, ETL, Erwin, Embarcadero, Stored Procedures, Triggers, TSQL, Data Modeling, Object-Oriented Design

Director of Application Development

1/2001 - 10/2001 Intellimet International, Scottsdale, AZ

- Responsible for the migration of the Company's client-server based application to a web-based/N-tier application. This application was used to assess supply-chain management to ISO-9000 and to ISO-aerospace standards. Responsible for the architecture of the product and managed a staff of eight Java and XML developers. Was additionally responsible for all database architecture and database administration using SQL Server 7.0 and SQL Server 2000. Accomplishments: Responsible for the full life-cycle of the project including hiring programmers, choosing the best technology, adhering to budget constraints, and the functional and detailed design of both applications and databases. All project milestones were met and the application was successfully launched. Implemented the company's data warehousing efforts by aggregating historic data into data marts using SQL Server OLAP services.
- Environment: Microsoft .NET, XML, SQL Server 2000, ISO, Java Applets, JAD, Erwin, Stored Procedures, Triggers, TSQL, Data Modeling, Object-Oriented Design

Director of Database Architecture

4/1999 - 1/2001 World Marketing Alliance / DotPlanet, Inc., Duluth, GA

- Responsible for 15 SQL Servers (mixture of 6.5 and 7.0) and over three Terabytes of data. Included creation of all data objects, writing of store procedures, database design and modeling, backup and recovery, capacity planning, security, replication, remote procedure calls, distributed transactions, and managing junior-level DBAs. Also led the data warehousing effort within the company which consisted of five data marts using SQL Server OLAP Services.
- Accomplishments: Migration of all 6.5 SQL Servers to SQL Server 7.0. Support for over 600 users locally and 20,000 users nationwide. Rapid Application Development of two Internet sites allowing for a one-month turn-around from concept to live web presence. Created five data marts for internal reporting, using a HOLAP model of data storage. Designed and managed the rewrite of the company's application for paying commissions using a thin-client architecture.
- Environment: SQL Server (2000, 7.0, 6.5), ROLAP, HOLAP, Embarcadero, OLTP, ODS, ETL, COM, Replication, Clustering, Stored Procedures, Triggers, TSQL, Data Modeling, MDX

Knowledge Engineer

3/1997 - 4/1999 IBM/Tivoli Systems, Atlanta, GA

- Acted as an implementation and integration expert for Tivoli Decision Support, an OLAP tool that utilizes Cognos Powerplay and Transformer to collect metadata from Tivoli's data model. Was additionally responsible for the development of deployment materials and training for customers and business partners. Involved in both pre- and post-sales activities. Deployed Tivoli products on various database platforms including: Informix, DB2, SQL Server, and Oracle. Served as Integration expert for Tivoli Decision Support, a Visual Basic based application, by providing customization work and training to customers and business partners.
- Accomplishments: Selected for the development team to train Tivoli's largest business partner (IBM Global Services) to deliver services for Tivoli products. Created a certification curriculum that became the standard in the Professional Services group. Served as Subject Matter Expert for Tivoli Decision Support. Lead the development effort to integrate with Microsoft OLAP Services.
- Environment: MOLAP, Erwin, Cognos Powerplay, Cognos Transformer, Cognos Impromptu, Oracle, Informix, DB2, Sybase, SQL Server, ETL, RUP, Stored Procedures, Triggers, TSQL, Data Modeling, PL/SQL, MDX Clients: M&M Mars, PNC Bank, Dynegy Inc., Deloitte and Touché, Nextel

Project Manager/Database Administrator

9/1993 - 3/1997 National Market Share, Atlanta, GA

- Managed a team of 12 programmers responsible for the development of applications, support of 8 call centers, and management of client expectations. Managed up to 10 client based projects including the company's largest (U.S. Satellite Broadcasting, 65% of revenue). Other projects included: sales and demographic information for cellular telephone service provider, customer retention for healthcare client, and customer satisfaction for a payroll processing client. The team developed applications in Visual Basic for Applications, Visual Basic (4.0 and 5.0), FoxPro (2.6 and 5.0), and Visual C++ using ODBC to connect to SQL Server (6.0 and 6.5). Served as database administrator for two SQL Servers.
- Environment: SQL Server (4.3 and 6.0), Sybase, OLTP, VBA, Data Migration, Predictive Dialers, Stored Procedures, Triggers, TSQL, Data Modeling
- Clients: Home Box Office, United Satellite System Broadcasting (USSB), Direct TV.

Darryl James

QUALIFICATIONS

- SUMMARY** Over 20 years experience designing and building software systems, web portals, data warehouses, and business intelligence solutions for large organizations with thousands of users.
- KEY SKILLS** Microsoft: .NET, SQL Server, Analysis Services, Reporting Services, Project Server
Oracle: 9i, 10G, Developer, Designer, Discoverer, PL/SQL
Cognos: Framework Manager, Transformer, Report, Analysis, and Query Studios
Rational: Unified Process, Requisite Pro, ClearQuest, ClearCase, Rose
Programming: SQL, ASP, .NET, C#, C++, C, Java, Visual Basic, HTML, XML, Perl
Other: ERwin, ModelMart, UML
- EDUCATION** Bachelor of Science with honors in Computer Science, 1985-1988, University of Central Florida, Orlando, Florida; 1982-1984, United States Air Force Academy, Colorado Springs, Colorado

CAREER HIGHLIGHTS

01/2004 – Present **State of Georgia, Department of Education** **Atlanta, Georgia**

- **Director of Application Development** for the Office of Technology Services. Supervised 70 staff members across three project portfolios including Decision Support Applications, Financial Applications, and Portal Applications as well as three post development groups for database administration, quality assurance, and configuration management. Supervised implementation of Microsoft Office SharePoint Server 2007 including site structure, taxonomy, data security, server architecture, etc. Supervised the implementation of the Georgia Statewide Student Information System (GSSIS). Represented the Department in numerous presentations to local, state, and national boards and committees.
- **Senior Project Manager** and **System Architect** for the Decision Support Applications portfolio. Supervised a major business intelligence initiative with a major software company to provide data and analytical tools through the worldwide web to the agency, school districts, and public. Supervised major development project for the implementation of the Adequate Yearly Progress (AYP) system for No Child Left Behind (NCLB). Supervised development of the public reporting framework to provide access to all public reports for any school or district for all school years from a single web page. Supervised implementation of analysis and reporting systems for the State Report Card, AYP, Title I Programs, Special Education, and Charter Schools.

03/1999 – 12/2003 **State of Florida, Department of Children and Families** **Tallahassee, Florida**

- **Technical Project Manager** and system architect for multiple data warehouse projects to deliver decision support data to over 2000 state legislators, district administrators, and state workers. Integrated new data warehouse software tools, legacy systems, and departmental applications to establish web-enabled business intelligence. Implemented data warehouse software methodology and documentation standards. Created project plans to evolve data warehouse through multiple phases and iterations. Sun ES, Windows NT/2000, IBM OS/390, Oracle 8i / 9i, DB2, IMS, Microsoft (SQL Server, Access, Analysis Services), Cache, COGNOS, ERwin, Rational (RUP, Requisite Pro, ClearQuest, ClearCase, Rose).

- **Data Architect / Data Modeler** of the logical and physical data models for an operational data store, data warehouse, and multiple data marts. Conducted JAD sessions to gather requirements and formulate the dimensional star-schema design from both hierarchical and relational source systems. Established standards and documented guidelines for data administration, metadata repository, and model management. Instructed courses in data modeling and multi-dimensional database design. ERwin, ModelMart, Cognos Architect, Oracle 8i / 9i, DB2, IMS, SQL Sever, Analysis Services, Cache, Rational Rose.
- **Systems Integrator** for data warehouse and project management software tools. Installed, configured, and administered Cognos software products. Managed vendor relationships through product evaluation, acquisition, and deployment. Created scripts and procedures to integrate user security, exchange metadata between tool databases, and perform configuration management. Documented guidelines for the use of software tools within the department. COGNOS (Impromptu, IWR, PowerPlay, CQ, Visualizer, Upfront, Access Manager, Architect, Decision Stream), ERwin, Act 360 Enrole, Rational (RUP, Requisite Pro, ClearQuest, ClearCase, Rose).
- **ETL Designer / Developer** of complex scripts to automate the extraction, transformation, and load (ETL) of data from external systems and mainframe data sources into an operational data store, data warehouse, and multiple data marts. Decision Stream, Informatica, Scripting, Oracle PL/SQL, Oracle Warehouse Builder, Visual Basic.

05/1996 – 02/1999

Vistakon, Johnson & Johnson Vision Products

Jacksonville, Florida

- **Senior Project Manager** for a Year 2000 project to re-engineer the software controlling the production of contact lenses on six manufacturing lines operating 24/7. Managed a cross-functional client team and vendor through project life cycle. Conducted status meetings, produced status reports, and established project control mechanisms to create and maintain a project plan detailing tasks, estimates, resources, and schedule.
- **Technical Lead / System Architect** - Integrated multiple application modules spanning production planning, manufacturing, quality assurance, inventory, and marketing while adhering to FDA regulations for document control and electronic record keeping. Integrated applications, database, security, and standards in a multi-tier client server platform using Sun ES, SCO-Unix, NT, Oracle, Informix, Designer / Developer 2000, and PVCS. Designer of a cross-platform configuration management strategy to include software release, version control, build, promotion, and defect tracking using PVCS Version Manager and shell scripts.
- **Data Architect / Data Modeler** of the logical and physical data models for online transaction processing applications, operational data store, and data warehouse using entity relationship and star schema diagrams. Established metadata standards for naming and model management. Designed strategy for conversion, replication, and data access control. Performed capacity planning, monitoring, and tuning. ERwin, Model Mart, Oracle 7, Informix.
- **Designer / Developer** of OLAP databases, reports, and ad hoc query models to transform operational data into performance measurements. Created complex SQL and PL/SQL to build staging tables, cubes, multi-dimensional databases, and drill-thru reports and queries. COGNOS (PowerPlay, Transformer, Impromptu, IWR, CQ, Visualizer, Upfront, Architect), SQL, PL/SQL, Java Script, XML, HTML.

06/1995 – 05/1996

Lucent Technologies

Tampa, Florida

- **Project Manager** for the development and implementation of custom software to track the installation of routers, hubs, and other networking equipment. Integrated new software with parent organization's legacy systems by redesigning input forms, paper filing systems, internal document routing, and ISO 9000 procedures. Conducted status meetings and produced status reports. Created and maintained the project plan.

07/1993 – 06/1995

AT&T Universal Card Services

Jacksonville, Florida

- **System Architect / Technical Lead** for the development of a customer statement archive and retrieval application to store credit card statements, then permit customer service personnel to view statement images during phone calls with customers. The custom software integrated with a third-party vendor's workflow and imaging applications, a mainframe data feed, and high-volume mailing equipment. Three-tier client/server architecture and data center supporting more than 2500 workstations and 725 concurrent users.
- **Data Architect / Data Modeler** of the logical and physical data models, database schemas, and file system architecture for a 770 GB operational data store and data warehouse. Informix 5, 7, Oracle 7, Software through Pictures. NCR 3550, AT&T Pyramid, Sun SPARC. Interfaces to four separate non-located data centers via 3270 HLLAPI, file transfers, and custom built APIs.
- **Project Manager and Process Engineer** for the re-engineering of the IS organization's systems development methodology. Interviewed senior managers to negotiate a long-term, comprehensive plan for process and quality improvement. Collected existing standards and procedures documents, then reformatted and augmented them into a systems development process guide of process flows, standards, procedures, and templates in Lotus Notes. Created project plan templates for a variety of software development life cycle models. Software Engineering Institute's Capability Maturity Model, IEEE Software Engineering Standards, LBMS.

10/1998 – 07/1993

Cincinnati Bell Information Systems

Orlando, Florida

- **System Architect / Technical Lead** for a telecommunications product to perform network management and billing. Author of standards and procedures for the use of CASE tools to produce project deliverables and user interface style guide. Principal designer of the data model and database schema.
- **Business Analyst** - Primary author of a proposal to a State of Florida RFP that achieved highest score and secured a 5-year multimillion-dollar contract.
- **Project Manager** for a telecommunications product to perform premises facilities management.

01/1984 – 09/1998

OWP Data Processing

Orlando, Florida

- **Business Analyst and Programmer** of a variety of customized applications that integrated with existing accounting applications. Performed analysis, design, development, testing, installation, training, and maintenance for a small data processing company while earning my degree.

Bryn Reese

Summary of Experience

Bryn Reese is a senior manager in the Public Services practice of BearingPoint. He has 20 years systems experience including project management, feasibility studies, requirements analysis, planning, systems analysis, design, construction, test, and implementation. This experience includes Enterprise Resource Planning (ERP) implementation (SAP and Oracle); Data Warehouse implementation, Computer-Aided Software Engineering (CASE); Information Engineering (IE); software estimation; metrics; and Software Engineering Institute (SEI) Capability Maturity Model (CMM)-based software process improvement. He is a certified SAP R/3 implementer and a certified Project Management Professional (PMP).

Education

- M.S., Computer Science / Systems and Control Engineering, Univ. of West Florida, 1992
- B.A., Mathematics and Economics, Oberlin College, 1984

Certifications

- Certified Project Management Professional (2004 – present)
- **Security Clearance:** Secret. Mr. Reese has previously held Top Secret / Special Compartmentalized Information (TS/SCI) clearances.

CAREER HIGHLIGHTS

BearingPoint, 1992 to Present

State, Local Government, and Education Team Lead—BearingPoint, Deltek Financial System Implementation, July 2008 – Present. Mr. Reese is leading the data validation and confirmation effort for all BearingPoint State, Local Government, and Education contracts. In addition to leading his team, Mr. Reese performs senior-level review of the work performed by other teams in Public Services, Commercial Services, Financial Services, and Emerging Markets. The new system will improve financial data accuracy; support more effective and efficient financial processes; improve reporting timeliness, quality, and accuracy; and reduce costs through system consolidation.

Project Manager—Georgia Department of Education, OtisEd Proof of Concept, March 2008 – June 2008. Mr. Reese led a Proof of Concept for implementing new technology to significantly enhance statewide PK-12 data collections. The Proof of Concept demonstrated the capability for nightly automated data collection while improving data quality. Improving data collection frequency and accuracy will facilitate student placement for new enrollment, support electronic transcript communications, and provide educators with longitudinal data.

Project Manager—Georgia Department of Education, Statewide Student Information System, September 2004 – November 2007. Mr. Reese led the implementation a K-12 Statewide Decision Support System (Data Warehouse plus analytical reporting tools) and Unique Student Identifier System in support of the No Child Left Behind act. Solution encompasses over 180 districts, 2000 schools, and 1.6 million students. State solution had to be compatible with 7 local student information system packages statewide and 5 local custom software solutions. Project

included design, implementation, integration, testing (system, performance, pilot, user acceptance), roll out, training, client and second level customer support, and post-implementation operations and maintenance.

Deputy Project Manager—University of Alabama at Birmingham (UAB), Oracle Implementation (STEPS) Project, August 2002 - August 2004. Mr. Reese was the Deputy Project Manager for an Oracle Financials and Human Resources (HR) ERP implementation. Financial modules included General Ledger, Grants Administration, Purchasing, Accounts Payable, Accounts Receivable, and limited Cash Management. HR modules included HR, Payroll, Advanced Benefits, Self Service, and Labor Distribution. The system leveraged Workflow, KBACE (third-party reporting tool), and heavy customization. Mr. Reese established project planning, tracking, and management processes for the Program Management Office (PMO). He coordinated functional, technical, and cross-team activities to provide for objective progress tracking, issue resolution, client executive visibility and action, and schedule adherence. He defined and enacted the defect tracking and resolution process for integration testing, acceptance testing, and production support. Mr. Reese developed and implemented an Instance Management Plan for the project. He implemented day-by-day tracking plans for data conversion, test readiness, test execution, and Go Live readiness.

Implementation Manager / Test Manager—U.S. Department of Education, Common Origination and Disbursement (COD), March 2001 - July 2002. Mr. Reese led all system testing for Release 1.0 and led the implementation of Release 1.1. COD integrates delivery of all U.S. Title IV financial aid. Mr. Reese led a team of 50. He orchestrated integration, interface, acceptance, intersystem, school / vendor, performance / benchmark, and production simulation (people, processes, system) test efforts for the host based system, web front-end, and interface / transport mechanism across multiple geographic locations. He addressed logical day testing, environment coordination, code migration, client management, and team integration issues in an IMS / DB2 environment with GUI front-end. He ensured that crucial delivery deadlines were met despite extreme schedule compression due to federal mandates.

SAP Manager—U.S. Department of Defense (DoD), 2000 - 2001. Mr. Reese provided program management and release planning support for a multinational SAP implementation. He coordinated multiple site Go Lives and founded the Enterprise Center Configuration Management (CM) program. He established process and guidelines for controlling baseline changes and maintaining a stable production environment. He coordinated activities at multiple sites to build regularly scheduled instance refreshes into the master integrated program schedule and developed a program-wide regression testing guideline. In addition, Mr. Reese performed configuration, testing, and training for Financial (FI), Controlling (CO), and Funds Management (FM) modules. He also provided post-implementation support in financial, budgeting, and logistics areas.

Senior Business Advisor—University of Virginia, 1999. Mr. Reese developed a comprehensive business case for the university's Oracle implementation project. Scope included Pre-award Grants, HR, Payroll, Procurement, Funds Management, Training, Student, and Information Technology. He led 7 teams, which in turn involved approximately 170 people. The Gartner Group cited this business case as one of the finest they have ever seen for higher education.

Business Advisor—Naval Air Systems Command (NAVAIR), 1998 - 1999. Mr. Reese assisted in the development of the overall approach and framework for managing systems development and implementation across 3 production sites. He developed the overall program management approach, refined the agency Work Breakdown Structure (WBS), life cycle management process,

funding strategy, and contracting approach. He defined a configuration management solution for baseline management of agency and site assets. He established standard processes for risk management and status reporting.

Business and Technical Consultant—Joint Logistics Systems Center (JLSC), 1992 - 1998.

Mr. Reese led SEI CMM-based software process improvement efforts culminating in a successful appraisal in advance of the industry average. He developed management tools to baseline and track process compliance which were subsequently adopted by three other organizations. He established a suite of CMM Level 3 metrics and developed and delivered CMM training. In addition, Mr. Reese performed independent assessments for large-scale system implementations. He independently developed cost, schedule, and manpower requirements and identified variances from existing project management plans. He performed risk assessments and composed action plans. Furthermore, Mr. Reese developed a CASE estimation model which was more precise than that of the vendor. He leveraged this model to provide the Provisioning and Cataloguing Technical Support System (PCTSS) development team with a realistic schedule upon which formed the basis for the new Business Area Analysis (BAA) work plan.

United States Air Force, 1984 – 1992

Computer / Communications Programming and Analysis Officer. Prior to joining BearingPoint, Mr. Reese was a Computer/Communications Programming and Analysis Officer for the United States Air Force. In that capacity, he led a team that was part of a multi-service \$1.2 billion intelligence automation project. He delivered the enhanced subsystem ahead of schedule saving the client 16 work months. Its flawless performance led to its selection as the standard driver for testing Command, Control, Communications, and Computer (C4I) systems. Moreover, he implemented computer and electronic security measures for a top secret development facility of 80 personnel. He remedied vulnerabilities which 5 different individual had been unable to correct in 5 years. He maintained a perfect record of no computer or electronic security breaches. The security plan he developed was adopted as the standard for 7 other software development facilities.

Rosemary Levette Williams

Profile

- 18-years of experience as a professional manager.
 - Ability to direct complex projects from concept to fully operational status
 - Organized, highly motivated, and detail-directed problem solver.
 - Proven ability to work in unison with all levels of staff.
-

Education

B.B.A with emphasis in Management Information Systems, 1981
Project Management certification , Keane Inc, 1999

Employment

Director of Technology Management, Georgia DOE Atlanta, Ga *2006-Present*

- Directs the statewide collection of education data to support QBE funding as required by O.C.G.A 20-2-160 for all Georgia public schools.
- Directs the activities of the GaDOE Technology Services helpdesk to ensure exceptional customer service to all internal and external customers.
- Interacts with the USDOE as the State Education Agency(SEA) representative, as appointed by the State Superintendent of Schools, Kathy Cox, on matters concerning data reporting.
- Directs the activities of the Data Reporting staff in responding to request for data from internal and external clients.
- Communicates to Student Information System vendors all data reporting requirements to comply with state and federal law and state board rule.
- Directs the creation of Education Thematic Maps using collected education data.

Data Collections and Reporting Manager, Georgia DOE Atlanta, Ga

2001-2006

- Conducted statewide training sessions on all annual data collection efforts for the GaDOE.
- Managed the collection of data requirements to support all GaDOE program offices for program evaluation.
- Managed the data reporting efforts of GaDOE to ensure the compliance to state and federal law and also GaDOE board rule.
- Implemented the reporting of educational data to the EDEN data warehouse as mandated by the Federal Register.
- Implemented the collection of Class Size Data as mandated by state law.
- Managed the implementation of the Interactive Reports which provided superintendents, district staff and GaDOE program managers a tool for data-driven decision-making.

**Education Data Collections Specialist, Georgia DOE,
Atlanta, Ga**

2000-2001

- Developed documentation on the data collection and data reporting efforts of the GaDOE.
- Conducted GSAM training sessions to inform Georgia school districts of upcoming reporting requirement.
- Worked closely with development staff to ensure systems were in place for data reporting activities.
- Met with program office staff to gather data collection requirements as needed for program evaluation.

**Education Data Collections Specialist, Seminole County
BOE, Sanford, Fl**

1988-1997

- Coordinated the data collection efforts for the Seminole County Board of Education.
- Conducted annual workshops to train Data Specialist located in elementary, middle, and high school in Seminole County, Florida.
- Provided programming requirements to applications development staff as required for new and enhanced development for student, staff and financial data collection applications.
- Visited school systems within the county to conduct data reporting audits to ensure the integrity of the reported data.

**Honors &
Awards:**

Received 8 awards from the United States Department of Education on the successful transmittal of high-integrity education data.

2007-2008 – Award of Appreciation for being Chairperson of the Policies, Procedures and Implementation Committee from the NCES Forum.

2006-2007 -- Award of Appreciation for being the Vice-Chair of the Policies, Procedures and Implementation Committee from the NCES Forum

Accomplishments

Management/Supervision

- Chaired the Policy, Procedures and Implementation committee for the NCES Forum.
 - Current chairperson of the General Statistics Committee of the Education Information Management Advisory Consortium of CCSSO.
 - Participated on the NCES taskforce to produce the *Forum Guide to Improving Education Data: A Resource for Local Education Agencies*.
 - Chaired the NCES taskforce to produce the *Forum Guide to the Privacy of Student Information: A Resource for Schools*
-

David Lamitina

EDUCATION

Doctor of Philosophy (Ph.D) – Counseling & Educational Psychology

May, 2006 - University of Nevada, Reno

Master of Education (M.Ed) - Educational Psychology

August, 2001 - University of Nevada, Reno

Bachelor of Science (B.S.) – Psychology – Magna Cum Laude

May, 1998 - *Berry College, Mt. Berry, Georgia*

TECHNICAL SKILLS

Analytics: Statistical Package for the Social Sciences (SPSS), Microsoft Reporting Services / Business Intelligence Development Studio, Cognos (Analysis and Query Studios)

Database: Microsoft SQL Server, Oracle (Toad), MS Access

Programming: Visual Basic, SPSS Syntax, SQL, PL/SQL, HTML

Productivity: Microsoft Project, Microsoft Office, SharePoint, Visio, Rational ClearQuest

CAREER HIGHLIGHTS

3/07-Present

Georgia Department of Education

Atlanta, GA

Decision Support Architect

Design and development of solutions to convert data into actionable information

- Lead research projects for decision support group and coordinate data analysis activities
- Consult with Department staff to design reporting and analysis solutions that enable use of data
- Conduct research to identify methods for converting data into actionable information
- Coordinate analysis services and fulfill analytical data requests
- Design, coordinate, and deliver trainings for decision support applications
- Ensure project components supporting decision support needs are met

2/05-Present

Cre8ive Measures, LLC

Powder Springs, GA

President and Chief Informational Officer

Provide consultation to five state departments of education, the Council of Chief State School Officers, the Appalachian Educational Lab, and the Appalachian Regional Comprehensive Center in the areas of:

- Technical assistance in the implementation of various aspects of the No Child Left Behind Act.
- Independent replication audits of school, district, and state Adequate Yearly Progress results
- Conducting exploratory validity analyses to help states modify or adjust accountability systems
- Studies on the use of the AYP Metric to provide differentiated support to schools and districts
- Development of statewide data warehouse and decision support systems

8/05-3/07

Otis Educational Systems, Inc.

Powder Springs, GA

Director of Educational Solutions

Software development and project management for educational solutions.

- Supported the company with the design, planning, and execution of an education solutions strategy
- Designed and Developed Reporting and Analysis Solutions
- Produced training materials and facilitated trainings for OtisEd products
- Facilitated project meetings with State Department and School District clients
- Developed and documented functional specifications to guide solutions development

8/04 – 8/05

Nevada Department of Education

Carson City, NV

Assistant Director - Office of Assessment Program Accountability and Curriculum

Management and development of software systems including a statewide student information system, data warehouse, and annual reports of accountability.

- Conducted analyses using SPSS, Excel, and Sagent technologies to evaluate school improvement
- Provided reports and presentations to department, legislative, university, and state board members
- Supervised 4 departmental staff; negotiated and managed contracts with software vendors
- Coordinated efforts between technology service providers, school districts, and state agencies
- Development of reports from the state data warehouse using business intelligence software

Software development to produce accountability analyses and No Child Left Behind reports

- Developed a Visual Basic.NET application to conduct Adequate Yearly Progress (AYP) analyses
- Produced annual AYP reports, No Child Left Behind press releases, and reports to federal offices
- Web Master for Department Website providing AYP reports and NCLB reference materials
- Reviewed AYP appeals and provided consultation on the interpretation of federal statute
- Managed development of Website containing the State's Annual Reports of Accountability

4/03 – 8/04

Nevada Department of Education

Carson City, NV

Evaluation Consultant - Office of Assessment Program Accountability and Curriculum

Management and technical support of Nevada's High School Proficiency Exam (HSPE) program

- Management and monitoring of contracts with national assessment companies
- Delivered training on the interpretation of norm-referenced and criterion referenced test results
- Created technical reports using data analyses conducted in SPSS & Excel to evaluate new policies
- Assisted in facilitation of item writing workshops, assessment bias reviews, and standard settings
- Produced data files using Microsoft Visual Basic.NET, SPSS and Excel to support data analysis

8/02 – 4/03

University of Nevada, Reno

Reno, NV

Psychometrist - Downing Counseling Clinic; Instructor – Dept. of Counseling and Educational Psychology

- Administered and interpreted psycho-educational assessments for individuals referred for learning difficulties
- Provided consultation to clients in developing better study skills and evaluating vocational interests
- Produced reports documenting students' eligibility for educational accommodations
- Instructor for CEP 330 – Educational Psychology
- Teaching assistant for CEP 705 – Advanced Human Growth and Development
- Conducted research on moral development, teacher education curricula, and Attention Deficit Disorder

PRESENTATIONS AT PROFESSIONAL CONFERENCES

National Center for Educational Statistics Summer Forum

Washington D.C. – July, 2006

Quantifying The Magnitude By Which Schools Did Not Make Adequate Yearly Progress (AYP).

National Center for Educational Statistics Summer Forum

Washington D.C. – July, 2006

Nevada's Annual Reports of Accountability: A Model of Large Scale Accountability for Learning

Kentucky Teaching and Learning Conference

Louisville, KY – March, 2006

Data Driven Decision Making: The Difference Between Data And Information

Chief Council of State School Officers Large Scale Assessment Conference

San Antonio, TX - June, 2005

Providing Tiered Support To Schools And Districts Using The AYP Achievement Metric Calculator

Chief Council of State School Officers Large Scale Assessment Conference

San Antonio, TX - June, 2005

Evaluating AYP Classifications: Are We Identifying The Right Schools?

Chief Council of State School Officers Mega SCASS Conference

Orlando, FL - January, 2005

Evaluating the Consequential Validity of AYP Systems

Chief Council of State School Officers Large Scale Assessment Conference

Boston, MA - June, 2004

Validation Analyses for the NCLB Accountability System in Nevada

Chief Council of State School Officers Large Scale Assessment Conference

Boston, MA - June, 2004

Metrics for Ordering Schools Not Making Adequate Yearly Progress

Annual Nevada MEGA Conference – Lake Tahoe, NV - April, 2004

Formative and Summative Evaluations: Using Local Assessments to Guide School Improvement

Annual Conference, National Association of Black School Educators (NABSE)

Reno, NV - November, 2003

Building a Legacy of Success for Nevada's African American Students: Implications of NCLB

Annual Conference, Society for Information Technology and Teacher Education

Albuquerque, NM - March, 2003

Faculty Development in Higher Education: Assisting Education Professors with Technology

Annual Meeting, American Educational Research Association (AERA)

New Orleans, LA - April, 2002

An Examination of the Elementary Preservice Teacher Education Curricula: Implications for Students' Ethical and Moral Development

PUBLICATIONS

Sheinker, J., Hambrick, K., Lowery, D., Lamitina, D., Steele, C., St. Clair, K., Butcher, K., & Jarrell, T. (2006). *District Audit Tool: A Method for Determining Level of Need for Support*. Washington DC: Council of Chief State School Officers.

Cummings, R., Wiest, L., Lamitina, D., & Maddux, C. D. (2003). Teacher education curricula and moral reasoning. *Academic exchange quarterly*, 7(1).

Gregory W. Newcom

Summary of Qualifications

Greg Newcom (Enterprise Architect, Georgia DOE) has been working in the field of data warehousing and decision support for more than eighteen years. Positions with Hewlett-Packard, Software AG, Red Brick Systems, PaySys International, and Otis Educational Systems, as well as his time as an independent data warehouse architect have given him a wealth of real world experience in data warehouse design, modeling and implementation. Greg's data warehousing, decision support vertical industry expertise includes Fortune 100/500 clients in retail, manufacturing, hospitality, telecommunications, financial services and education. Greg has vast experience with all major RDBMS platforms including Oracle, SQL Server, Red Brick, DB2, Sybase, and Informix. Ralph Kimball has trained Greg in advanced Dimensional Modeling techniques (Star schema design). Greg has experience with a variety of ETL tools and end-user query tools. Greg has built data warehouse solutions that have been implemented internationally.

CAREER HIGHLIGHTS

Georgia DOE

February 2008 to present

Enterprise Architect – responsible for architecture, design, and development of decision support data models, including data warehouse model development, ETL development, and OLAP report development, utilizing a number of tools including SQL Server 2005, SQL Server Integration Services (SSIS), Microsoft Reporting Services, SharePoint (MOSS 2007), ERwin, and SourceSafe for source code control.

Otis Educational Systems, Inc.

May 2000 to February 2008

Chief Architect – responsible for architecture, design, and development of decision support solutions for the K-12 market, including data warehouse model development, ETL development, and OLAP report development, utilizing a number of tools including SQL Server 2005, SQL Server Integration Services (SSIS), Microsoft Reporting Services, SharePoint (MOSS 2007), ERwin, Sagent ETL toolset, and SourceSafe for source code control.

PaySys International, Inc.

November 1998 to May 2000

Director of Development, Data Warehousing Group – responsible for managing development of a world-wide data warehouse product solution for banks and large credit card processors to provide a complete turn-key solution from extraction to analytics. The solution was developed for mainframes, AS/400s, UNIX servers, and Windows NT/2000 servers processing hundreds of millions of records. The solution was built on the Oracle DBMS utilizing Erwin, DataStage ETL, and MicroStrategy.

BellSouth

February 1997 to November 1998

Independent Data Warehouse Architect – responsible for the design, development, and deployment of a marketing data warehouse for the southeast United States containing over a thousand socio-demographic measures for more than ten million households. The solution provided geo-spatial analysis of consumer trends and models to predict propensity to purchase particular goods and services. The solution was built on the Oracle DBMS utilizing PowerDesigner, Sagent ETL, and custom reporting.

Red Brick Systems, Inc.

August 1995 to February 1997

Senior Systems Engineer – responsible for the installation, configuration, and deployment of the Red Brick Warehouse product for data warehouse solutions in the telecommunications, financial services, packaged goods, retail, healthcare and hospitality industries. Integrated the product with a variety of front-end OLAP tools including: Crystal Reports, Brio, Business Objects, Cognos, MicroStrategy, and others.

Software AG of North America

March 1993 to August 1995

Senior Systems Engineer – responsible for the integration of 3rd party data warehouse products into the Software AG Data Warehouse Business Unit. Responsible for the deployment of an integrated solution including a number of 3rd party data warehouse tools at client sites.

Hewlett-Packard

June 1984 to March 1993

Technical Consultant – responsible for project managing the implementation and rollout of Hewlett-Packard servers/software to Fortune 100 companies. During this time, helped establish Hewlett-Packard's data warehouse consulting practice.

Professional and Technical Training

- Kimball University – Advanced Data Warehousing (Ralph Kimball Associates)
- Kimball University – Dimensional Data Warehousing (Ralph Kimball Associates)
- Advanced Data Warehouse Boot Camp (Red Brick Systems, Inc.)

Budget Narrative

Budget Narrative

Attachment 1:

Title: Pages: Uploaded File: **1235-GaDOE LDS Budget Narrative and Detailed Budget Sheets 9-25-2008.pdf**

Budget Narrative

The Georgia Department of Education requests \$8,942,640 over five years to support the systems implementation costs to develop and integrate the Chronicle longitudinal data system. Of this amount \$5,988,613 is requested for Infrastructure Activities and \$2,954,026 is requested for Enhancement Activities. Georgia fully expects to provide an additional \$9,032,128 during the same five year period to support this initiative, though the Georgia Department of Education as an agency of the State of Georgia, may not lawfully pledge the State's credit. The following section explains the nature of these expenditures as justification for the requested grant funds.

Personnel

Staffing is one of the most important elements of large projects like the Chronicle Longitudinal Data System. Although some members of the team are dedicated entirely to the project, the majority of team members contribute a portion of their time as part of a team that provides services for all Departmental projects and program. Across all teams, over a hundred individuals are expected to play some role in this project. For purposes of this application, the different types of involvement by project team members has been divided into four categories: Key Personnel – State Funded, Support Personnel – State Funded, Key Personnel – Federal Funded, Project Personnel – Federal Funded. These types are described below.

- 1. Key Personnel – State Funded:** There are three key positions, as listed in the Project Personnel and Resources section of the Project Narrative, which will be paid for by GaDOE as part of the Non-Federal funding. These include the project executive, project director, and data quality manager.
 - *The Project Sponsor/Executive* ensures the project meets its strategic objectives, makes strategic decisions based on stakeholder input and senior management decisions, ensures the project stays on schedule, serves as the project liaison to the AEAH Technology Steering Committee, supervises the P-20 data exchange components, provides update to state board and other senior management groups, and chairs the Project Oversight Committee. The SEA Chief Information Officer will perform the role of the Project Executive.
 - *The Project Director* supervises the Project Manager, coordinates with the Georgia Technology Authority on all technical support and regulatory compliance issues, ensures hardware and software support is available to the project, manages all contract processes, provides technical expertise to support the project, and provides updates to senior management. Approximately 30% of the Project Director's overall time will be dedicated to Chronicle.
 - *The Data Quality Manager* is responsible for overall execution of the project's data governance plan, coordinating activities to ensure viability of a unified data store to meet all local, state, and federal requirements responsible for creation and management of enterprise data dictionary. Coordinates the development of specifications to drive all data quality edit checks and is the primary point of contact for all data quality issues. Approximately 50% of the Data Quality Manager's overall time will be dedicated to Chronicle.
- 2. Support Personnel – State Funded:** There are eight additional positions or groups that will contribute to the operations and support activities essential to the success of Chronicle.

The costs of their services will be paid for by GaDOE as part of the Non-Federal funding. The staff members in these groups will collectively participate to support the efforts of this and other projects. GaDOE anticipates the full-time equivalency (FTE) participation in support of the Chronicle project as indicated in the table below.

| <u>Team Members</u> | <u>Salary</u> | <u>FTE</u> |
|------------------------------------|---------------|------------|
| Help Desk Manager | \$ 75,000 | 0.10 |
| Quality Assurance Manager | \$ 75,000 | 0.10 |
| Data Collection and Reporting | \$ 75,000 | 2.00 |
| Data Center Operations | \$ 75,000 | 0.75 |
| Training | \$ 60,000 | 0.25 |
| Communications | \$ 65,000 | 0.50 |
| Network and Systems Administration | \$ 85,000 | 0.50 |
| Project Management Office | \$ 100,000 | 0.10 |

3. **Funding Key Personnel – Federal Funded:** There are three key positions, as listed in the Project Personnel and Resources section of the Project Narrative, which are being requested to be paid for as part of Federal funding. Since these team members are anticipated to be contract staff, the costs for their services are not included in the Personnel budget category. They are listed as part of the Contractual budget category below. These include the project manager, decision support architect, and data architect.
4. **Project Personnel – Federal Funded:** There are nine additional positions that will contribute to the software development activities essential to the success of Chronicle. Since these team members are anticipated to be contract staff, the costs for their services are not included in the Personnel budget category. They are listed as part of the Contractual budget category below.

In total, the state of Georgia anticipates providing funding in total of \$2,662,500 across the five years of this project to support project personnel.

Since all of the personnel being requested for Federal Funding is anticipated to be provided by contract staff, Georgia Department of Education is not requesting any support from the U.S. Department of Education in the Personnel budget category.

Fringe Benefits

The Georgia Department of Education is not requesting any support for the Fringe Benefits budget category.

Travel

The Georgia Department of Education is requesting \$213,000 to support costs for four types of travel purposes. All of the Travel costs are foundational to the involvement of project stakeholders and as such are included in the dollar amount for Infrastructure Activities.

1. LDS Grantee Symposium: \$15,000 is estimated for the purpose of two persons to travel to attend the annual LDS Grantee Symposium once per year for five years. The cost of airfare, hotel, car rental or taxi cab, per diem, and other miscellaneous expenses is estimated to average \$1,500 per person per year.

2. School District Site Visits: \$120,000 is estimated for the purpose of two persons to travel to visit 50 school districts per year for five years. The cost of car rental, airfare, hotel, per diem, and other miscellaneous expenses is estimated to average \$300 per person per visit. This travel is necessary as part of the deployment of the data submission application which is installed in each school district's central office. This travel will augment the use of the Web Conferencing software.
3. Annual Conferences: \$48,000 is estimated for the purpose of an average of three persons to travel to attend an average of seven annual in-state conferences once per year for five years. The costs might include conference registration, airfare when necessary, hotel, car rental or taxi cab, per diem, and other miscellaneous expenses is estimated to average \$450 per person per trip. These conferences are an essential part of the governance and communications plan as they will provide an opportunity for district personnel to communicate feedback and recommendations. The in-state conferences might include thirteen (13) regional sessions of the Data Quality Workshops, GSIS, GAMEIS, GAINS, GASBO,
4. Training: \$30,000 is estimated for the purpose of either two SES staff to travel to the thirteen regional training centers once per year for five years or to cover the costs of the regional trainers to visit Atlanta for train-the-trainer sessions. The cost of car rental, airfare, hotel, per diem, and other miscellaneous expenses is estimated to average \$300 per person per visit.

Equipment

The Georgia Department of Education is requesting \$314,916 in support of four types of Equipment. All of the Equipment costs are foundational to project implementation and operation of the system and as such are included in requested dollar amount for Infrastructure Activities.

1. **Workstations:** \$14,128 is requested to purchase eight workstation computers for software development purposes.
2. **Notebook Computers:** \$9,832 is requested to purchase four notebook computers for management and travel purposes.
3. **Servers:** \$117,784 is requested to purchase 16 servers and 2 rack enclosures along as well as the necessary accessories to integrate them into GaDOE's data center. Six of these servers will be used in the production environment (two web servers, two application servers, two database servers), six of these servers will be used in the environment used for training, user acceptance, and performance testing (two web servers, two application servers, two database servers), and four of these servers will be used in the development environment. Pairs of servers are utilized to provide redundancy and fail-over.
4. **Storage Area Network:** \$173,182 is requested to purchase disk arrays and controllers to accommodate a 19 terabyte Storage Area Network. This storage will be necessary for the tremendous volumes of data required by the longitudinal data.

Supplies

The Georgia Department of Education is not requesting any support for the Supplies budget category.

Contractual

The Georgia Department of Education is requesting \$8,414,724 in support for the Contractual budget category. To augment the federal funding request, Georgia anticipates providing an additional \$6,089,055 for the Contractual budget category in state funding.

The requested Contractual budget category includes costs for five sub-categories in the areas of the grant that are requesting federal assistance as described below:

1. **Software Licenses:** \$1,321,000 is requested to license four types of software that is considered foundational to the project and essential and as such is included in the requested dollar amount for Infrastructure Activities.
 - a. Data Submission software will be needed in each school district for the purpose of uploading the districts' student information data on a daily basis. This software is being estimated to cost \$3,000 per LEA. The software will be deployed at Georgia's 182 school districts in the second and third years. The total extended cost is estimated at \$546,000.
 - b. Data Validation software will be needed at the SEA for the purpose of receiving the data from LEAs, loading the data into the Enterprise Data Hub, and reporting data discrepancies back to the LEAs. This software is estimated to cost \$550,000.
 - c. Unique Identifier Matching Engine software will be needed at the SEA for the purpose of matching student records to their unique identifiers to prepare them for loading into the Enterprise Data Hub. This software facilitates the maintenance of longitudinal student records by ensuring that all records for the same student are matched to them instead of being tracked as two or more individuals. This software is estimated to cost \$200,000.
 - d. Web Conferencing software will be needed at the SEA for the purpose of providing remote support and training. This will allow Deployment Specialists at the SEA to solve LEA technical issues by taking control of their workstations and servers from Atlanta. GaDOE will use this software to compliment the School District Site Visits in order to reduce travel expenses during the process of setting up the Data Submission software at Georgia's 182 school districts. This software is estimated to cost \$25,000.
2. **Software Maintenance:** \$456,500 is being requested to cover software maintenance for the four different software licenses.
 - a. Data Submission software maintenance is estimated at 10% of the original software license per year. This expense will begin in the third and fourth years as the software

is deployed throughout Georgia’s 182 school districts. This software maintenance is estimated at \$136,500.

- b. Data Validation software maintenance is estimated at 10% of the original software license per year. This expense will begin in the second year and continue through the end of the project and beyond. This software maintenance is estimated at \$55,000 per year for four years for a total of \$220,000.
 - c. Unique Identifier Matching Engine software maintenance is estimated at 10% of the original software license per year. This expense will begin in the second year and continue through the end of the project and beyond. This software maintenance is estimated at \$20,000 per year for four years for a total of \$80,000.
 - d. Web Conferencing software maintenance is estimated based on usage. This software maintenance is estimated at 20% of the original \$25,000 cost. \$5,000 per year for five years for a total of \$25,000.
3. **Evaluation Services** – \$1,083,250 is requested to support the cost of a third-party consulting vendor to perform Independent Validation and Verification as a part of project oversight and management controls. IV&V for large scale projects that require oversight by the Georgia Technology Authority require a standard level of involvement on an ongoing basis over the life of the project. IV&V services have been quoted for \$250,000 per year for 4.33 years. This service includes on-site attendance of weekly project status and deliverable review meetings. It also includes off site preparation of the monthly IV&V report and attendance of the critical project review meetings with the Georgia Technology Authority. The involvement is estimated to average two days per week for \$2,500 per day. The \$1,083,250 can be broken down into \$620,825 for IV&V of activities which are considered foundational and included in the Infrastructure Activities and \$462,425 for activities which are considered Enhancement Activities.
4. **Software Development Services (Infrastructure)** - \$3,062,372 is requested to support the cost of software development contract services for twelve contractors to conduct activities related to infrastructure over a five year period. These dollars are attributable to foundational activities described in the project narrative and supporting project plan and timeline. The rates and full-time equivalent percentages of each project role are presented below by year: The percentages reflect the portion of the contracting services which are anticipated to be dedicated to Infrastructure Activities.

| <u>Resource Role</u> | <u>Rate</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> |
|----------------------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Project Manager | \$100.00 | 100% | 70% | 49% | 26% | 3% |
| Decision Support Architect | \$80.00 | 50% | 35% | 25% | 13% | 2% |
| Business Analyst | \$60.00 | 100% | 70% | 49% | 26% | 3% |
| Data Architect | \$115.00 | 75% | 53% | 37% | 20% | 1% |

| | | | | | | |
|---------------------------|---------|------|-----|-----|-----|----|
| Application Architect | \$80.00 | 50% | 35% | 25% | 13% | 1% |
| Data Developer | \$75.00 | 100% | 70% | 49% | 26% | 3% |
| Application Developer | \$75.00 | 25% | 70% | 49% | 26% | 1% |
| Quality Assurance Analyst | \$65.00 | 25% | 35% | 25% | 13% | 1% |
| Technical Writer | \$55.00 | 0% | 53% | 37% | 20% | 1% |
| Deployment Specialist | \$70.00 | 25% | 70% | 49% | 26% | 0% |
| Deployment Specialist | \$70.00 | 25% | 70% | 49% | 26% | 0% |
| Database Administrator | \$95.00 | 10% | 18% | 12% | 7% | 3% |

5. **Software Development Services (Enhancements)** - \$2,491,601 is requested to support the cost of software development contract services for twelve contractors to conduct activities related to enhancements over a five year period. These dollars are attributable to system enhancement activities described in the project narrative and supporting project plan and timeline. The rates and full-time equivalent percentages of each project role are presented below by year: The percentages reflect the portion of the contracting services which are anticipated to be dedicated to Enhancement Activities in each year as the project focus shifts from Infrastructure..

| <u>Resource Role</u> | <u>Rate</u> | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> |
|----------------------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Project Manager | \$100.00 | 0% | 30% | 51% | 74% | 30% |
| Decision Support Architect | \$80.00 | 0% | 15% | 26% | 37% | 15% |
| Business Analyst | \$60.00 | 0% | 30% | 51% | 74% | 30% |
| Data Architect | \$115.00 | 0% | 23% | 38% | 56% | 11% |
| Application Architect | \$80.00 | 0% | 15% | 26% | 37% | 7% |
| Data Developer | \$75.00 | 0% | 30% | 51% | 74% | 30% |
| Application Developer | \$75.00 | 0% | 30% | 51% | 74% | 7% |
| Quality Assurance Analyst | \$65.00 | 0% | 15% | 26% | 37% | 7% |
| Technical Writer | \$55.00 | 0% | 23% | 38% | 56% | 11% |
| Deployment Specialist | \$70.00 | 0% | 30% | 51% | 74% | 0% |
| Deployment Specialist | \$70.00 | 0% | 30% | 51% | 74% | 0% |
| Database Administrator | \$95.00 | 0% | 8% | 13% | 19% | 23% |

Three of the key positions listed in Project Personnel and Resources section of the Project Narrative are anticipated to be fulfilled through contract services. These positions are described below:

1. *The Project Manager* leads day-to-day implementation of the Data Hub, manages overall project development, tracks development on schedule, coordinates release and acceptance activities for all project deliverables, serves as primary point of contact to all project vendors and consultants. The Project Manager will be dedicated on a full time basis to the Chronicle project.

2. *The Decision Support Architect* leads research and data analysis activities, designs and coordinates development of solutions to aid end users in use of data from the system, conducts research to convert system data into actionable information, coordinates analysis services, fulfills analytical data requests, coordinates and delivers trainings for decision support applications, ensures project components supporting decision support needs are met. Approximately 50% of the Decision Support Architect's overall time will be dedicated to Chronicle.
3. *The Data Architect* defines and implements creation, deployment, and management of data models and enterprise-wide metadata for the Chronicle Data Hub, Coordinates ETL processing and implementation of Service Oriented Architecture, Responsible for Data Warehouse Expansion and Management, provides project representation on Change Control Board for Division of Technology Services. Approximately 75% of the Data Architect's overall time will be dedicated to Chronicle.

The Contractual budget category also includes costs for two sub-categories in the areas of the grant that are not requesting federal assistance as described below:

Contract Services: \$3,163,090 is anticipated to be provided over five years by state funding to cover the costs of staff participation in program operations and support. These operations and support areas include unique identifier, data collections, data reporting, and help desk. As each of these areas is supported by team of staff members, a percentage of full-time equivalency has been estimated to determine the portion of staff involvement attributed to the implementation and deployment of the Chronicle Longitudinal Data System.

Software Maintenance: \$2,926,465 is anticipated to be provided over five years by state funding to cover the costs of annual software maintenance since these software products have been previously purchased and are currently in use. The software maintenance is itemized into categories by software type. These types include business intelligence, Microsoft development, Oracle development, and legacy data warehouse. Since some of these software products are shared by other applications and deployed systems throughout the agency, a percentage of use on the Chronicle system has been used to determine the estimated cost attributed to this project. This usage is dependent on the type of software product.

Construction

The Georgia Department of Education is not requesting any support for the Supplies budget category.

Other

The Georgia Department of Education is not requesting any support in the Other budget category, however, the agency is supporting the project using state funds in several itemized areas. In addition to the twelve software development contractors who are working on the Chronicle project, Georgia estimates that eight full-time equivalents will be utilized to successfully implement Chronicle. As such, the agency is providing workspaces, productivity software, email accounts, and phones to support 20 team members. Accordingly, \$177,973 will be provided in state funds in support of this project in the Other budget category

Training Stipends

The Georgia Department of Education is not requesting any support for the Training Stipends budget category.

| Budget Category | 2009-03 thru 2010-02 Year 1 | 2010-03 thru 2011-02 Year 2 | 2011-03 thru 2012-02 Year 3 | 2012-03 thru 2013-02 Year 4 | 2013-03 thru 2013-06 Year 5 | Total |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------|
| Personnel | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Fringe Benefits | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Travel | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 48,600 | \$ 18,600 | \$ 213,000 |
| Equipment | \$ 314,916 | \$ - | \$ - | \$ - | \$ - | \$ 314,916 |
| Supplies | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Contractual | \$ 1,986,500 | \$ 2,030,500 | \$ 2,057,800 | \$ 1,812,100 | \$ 527,824 | \$ 8,414,724 |
| Construction | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Direct Costs | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |
| Training Stipends | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Costs | \$ 2,350,016 | \$ 2,079,100 | \$ 2,106,400 | \$ 1,860,700 | \$ 546,424 | \$ 8,942,640 |

| Budget Category | 2009-03 | 2010-03 | 2011-03 | 2012-03 | 2013-03 | Total |
|--------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------|
| | thru 2010-02 Year 1 | thru 2011-02 Year 2 | thru 2012-02 Year 3 | thru 2013-02 Year 4 | thru 2013-06 Year 5 | |
| Personnel | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 532,500 | \$ 2,662,500 |
| Fringe Benefits | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Travel | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Equipment | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 20,420 | \$ 102,100 |
| Supplies | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Contractual | \$ 1,405,390 | \$ 1,405,390 | \$ 1,405,390 | \$ 1,405,390 | \$ 467,995 | \$ 6,089,555 |
| Construction | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other | \$ 41,074 | \$ 41,074 | \$ 41,074 | \$ 41,074 | \$ 13,678 | \$ 177,973 |
| Total Direct Costs | \$ 3,987,354 | \$ 3,987,354 | \$ 3,987,354 | \$ 3,987,354 | \$ 2,065,384 | \$ 9,032,128 |
| Training Stipends | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total | \$ 3,987,354 | \$ 3,987,354 | \$ 3,987,354 | \$ 3,987,354 | \$ 2,065,384 | \$ 9,032,128 |

| Budget Category | 2009-03 | 2010-03 | 2011-03 | 2012-03 | 2013-03 | Total |
|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|
| | thru 2010-02 Year 1 | thru 2011-02 Year 2 | thru 2012-02 Year 3 | thru 2013-02 Year 4 | thru 2013-06 Year 5 | |
| Equipment | \$ 314,916 | \$ - | \$ - | \$ - | \$ - | \$ 314,916 |
| Workstations | | | | | | |
| Dell OptiPlex 755 Workstations | \$1,766.00 | \$ - | \$ - | \$ - | \$ - | \$ 14,128 |
| Dell Latitude E6400 Notebooks | \$2,458.00 | \$ - | \$ - | \$ - | \$ - | \$ 9,832 |
| Servers | | | | | | |
| Rack, Enclosure, and Accessories | \$19,595.00 | \$ - | \$ - | \$ - | \$ - | \$ 39,190 |
| HP Blade E5205 | \$5,562.00 | \$ - | \$ - | \$ - | \$ - | \$ 44,496 |
| HP Blade E5260 | \$4,262.25 | \$ - | \$ - | \$ - | \$ - | \$ 34,098 |
| Storage Area Network | | | | | | |
| Rack, Enclosure, and Accessories | \$33,211.00 | \$ - | \$ - | \$ - | \$ - | \$ 33,211 |
| HP Disk Controller | \$13,032.00 | \$ - | \$ - | \$ - | \$ - | \$ 26,064 |
| HP 300 GB Hard Drives | \$1,550.00 | \$ - | \$ - | \$ - | \$ - | \$ 99,200 |
| 3 Yr Warranty and Support | \$14,697.00 | \$ - | \$ - | \$ - | \$ - | \$ 14,697 |

| Budget Category | 2009-03 thru 2010-02 | | 2010-03 thru 2011-02 | | 2011-03 thru 2012-02 | | 2012-03 thru 2013-02 | | 2013-03 thru 2013-06 | | Total |
|-------------------------------|----------------------|--------------------|----------------------|------------|----------------------|------------|----------------------|------------|----------------------|--------------|-------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 5 | Year 5 | Year 5 | Year 5 | | |
| Contractual - Software | \$ 775,000 | \$ 353,000 | \$ 380,300 | \$ 134,600 | \$ 134,600 | \$ 134,600 | \$ 134,600 | \$ 134,600 | \$ 134,600 | \$ 1,777,500 | |
| Software Licenses | | | | | | | | | | | |
| Data Submission | | \$ 3,000 | 182 Districts | \$ 546,000 | \$ 273,000 | \$ - | \$ - | \$ - | \$ - | \$ 546,000 | |
| Data Validation Framework | | \$ 550,000 | 1 | \$ 550,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 550,000 | |
| Unique Identifier Engine | | \$ 200,000 | 1 | \$ 200,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 200,000 | |
| Web Conferencing | | \$ 25,000 | 1 | \$ 25,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 25,000 | |
| Software Maintenance | | | | | | | | | | | |
| Data Submission | | \$ 300 per Year | 182 Districts | \$ 136,000 | \$ - | \$ 27,300 | \$ 54,600 | \$ 54,600 | \$ 54,600 | \$ 136,500 | |
| Data Validation Framework | | \$ 55,000 per Year | 4 Years | \$ 220,000 | \$ 55,000 | \$ 55,000 | \$ 55,000 | \$ 55,000 | \$ 55,000 | \$ 220,000 | |
| Unique Identifier Engine | | \$ 20,000 per Year | 4 Years | \$ 80,000 | \$ 20,000 | \$ 20,000 | \$ 20,000 | \$ 20,000 | \$ 20,000 | \$ 80,000 | |
| Web Conferencing | | \$ 5,000 per Year | 4 Years | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 20,000 | |

