

U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

STATEWIDE LONGITUDINAL DATA SYSTEMS

CFDA # 84.372A

PR/Award # R372A090037

Grants.gov Tracking#: GRANT10076230

OMB No. 1890-0004, Expiration Date:

Closing Date: SEP 25, 2008

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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="Connecticut State Department of Education"/>					
* b. Employer/Taxpayer Identification Number (EIN/TIN):			* c. Organizational DUNS:		
<input type="text" value="06-6000798"/>			<input type="text" value="807851118"/>		
d. Address:					
* Street1:	<input type="text" value="165 Capitol Avenue"/>				
Street2:	<input type="text"/>				
* City:	<input type="text" value="Hartford"/>				
County:	<input type="text"/>				
* State:	<input type="text" value="CT: Connecticut"/>				
Province:	<input type="text"/>				
* Country:	<input type="text" value="USA: UNITED STATES"/>				
* Zip / Postal Code:	<input type="text" value="06106"/>				
e. Organizational Unit:					
Department Name:			Division Name:		
<input type="text"/>			<input type="text"/>		
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="Mark"/>		
Middle Name:	<input type="text"/>				
* Last Name:	<input type="text" value="Vocca"/>				
Suffix:	<input type="text"/>				
Title:	<input type="text"/>				
Organizational Affiliation:					
<input type="text"/>					
* Telephone Number:	<input type="text" value="860-713-6879"/>	Fax Number:	<input type="text"/>		
* Email:	<input type="text" value="mark.vocca@ct.gov"/>				

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.):

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

Connecticut Statewide Longitudinal Data System Phase II

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="2,937,416.00"/>
* b. Applicant	<input type="text" value="0.00"/>
* c. State	<input type="text" value="0.00"/>
* 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="2,937,416.00"/>

* 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:
 Connecticut State Department of ...

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	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
4. Equipment	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 724,424	\$ 1,645,528	\$ 561,014	\$ 0	\$ 0	\$ 2,930,966
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 724,424	\$ 1,645,528	\$ 561,014	\$ 0	\$ 0	\$ 2,930,966
10. Indirect Costs*	\$ 6,450	\$ 0	\$ 0	\$ 0	\$ 0	\$ 6,450
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 730,874	\$ 1,645,528	\$ 561,014	\$ 0	\$ 0	\$ 2,937,416

***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: 7/1/2008 To: 6/30/2009 (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(e)(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:
 Connecticut State Department of ...

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

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

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

ASSURANCES - NON-CONSTRUCTION PROGRAMS

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.

<p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Mark Vocca</p>	<p>* TITLE</p> <p>Associate Education Consultant</p>
<p>* APPLICANT ORGANIZATION</p> <p>Connecticut State 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	
Connecticut State Department of Education	
* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix: <input type="text"/>	* First Name: <input type="text" value="Mark"/> Middle Name: <input type="text"/>
* Last Name: <input type="text" value="Vocca"/>	Suffix: <input type="text"/>
* Title: <input type="text" value="Associate Education Consultant"/>	
* SIGNATURE: <input type="text" value="Mark Vocca"/>	* DATE: <input type="text" value="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.	Mark	D.	Vocca	

Address:

* Street1:	165 Capitol Avenue
Street2:	
* City:	Hartford
County:	
* State:	CT: Connecticut
* Zip Code:	06145
* Country:	USA: UNITED STATES

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

860-713-6879	
--------------	--

Email Address:

mark.vocca@ct.gov

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) #:

--

No Provide Assurance #, if available:

--

Please attach an explanation Narrative:

	Add Attachment	Delete Attachment	View Attachment
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Project Narrative

Abstract Narrative

Attachment 1:

Title: Pages: Uploaded File: 1234-ABSTRACT.doc

ABSTRACT

The Connecticut State Department of Education (CSDE) implemented the student-level Public School Information System (PSIS) in October 2002. In October 2005 a unique student identifier was incorporated to facilitate the process of linking student information across several databases. Since then the CSDE has been working with an outside vendor to enhance the PSIS to more effectively track the educational experience of students in the local school districts. The CSDE has also begun redesigning several of its stovepipe data collections in order to leverage the student data in PSIS to improve the accuracy of the data submitted by the LEAs and to reduce duplication of effort on the LEA side.

While several improvements have either occurred or are in process, the PSIS does not capture information about the courses in which students enroll, and their completion of these courses, and the teachers who taught the courses. This information will become increasingly important as Connecticut moves toward implementing a secondary reform plan, part of which requires students to enroll in specific courses in order to graduate. An additional limitation is the inability to share PK-12 data with postsecondary institutions and labor in order to track the experience of Connecticut students once they have left the PK-12 system. If both of these limitations are addressed, Connecticut would be well poised to answer questions about the effectiveness of its secondary school reform initiative and about how well prepared students are to enter college or university.

This proposal seeks funding for two overarching initiatives; 1) a student/schedule/teacher module; and 2) an interoperability framework for data sharing between PK-12, higher education, and labor.

The outcomes of these two projects will be the creation of a data infrastructure that will enable the following:

1. The monitoring of the implementation of secondary school reform to determine if students are indeed enrolling in the classes needed to graduate;
2. Provide more accurate accountability reporting for the Federal Perkins Program;
3. Evaluating if students have been well prepared by their public school experience by determining the extent to which students need remediation upon entering the postsecondary system;
4. Answer research questions about course taking patterns and their relationship to student outcome measures;
5. Evaluate the impact of students' experiences in both secondary and postsecondary education on their experiences in the workforce.

Project Narrative

Project Narrative

Attachment 1:

Title: Pages: Uploaded File: 1237-project narrative_FINAL.doc

PROJECT NARRATIVE

Project I . Enhancement of Statewide Longitudinal Capabilities to Include Teacher and Course Information

(a) Need for the Project

Needs and Uses

In December 2005 the Connecticut State Department of Education (CSDE) was awarded a grant from IES to begin the process of building a statewide longitudinal data system (SLDS). In July 2006, the state of Connecticut committed additional funding to complete Phase I of the SLDS.

Phase I is on schedule and will be completed by December 2009. The following components were included in Phase I:

Technology and Architecture Infrastructure:

CSDE has partnered with the Connecticut Department of Information Technology (DOIT) to design and implement:

- A Single Sign-On (SSO) security module that leverages both Microsoft Active Directory and the Novell Access Manager authentication and authorization system.
- A Directory Manager application to jury existing CSDE user accounts and allow for the creation of Local Education Agency (LEA) user accounts with role-based access control. Provisioning of accounts and management of some security functions will be delegated to the LEA level.
- A Logical and Physical N-Tier design, consisting of modular components and sub-components with partitioning of components by defined interfaces and messaging based communications (inter-application and intra-application).
- Sharepoint Portal Deployment – CSDE has deployed version 1.0 of their data collection and dissemination portal. The portal is role-based and leverages the Single Sign-On security solution. It allows both public access to limited aggregated data, as well as secure access of student-level data to authenticated users as appropriate to role.
- A Change Control process to track and propagate code changes from development to staging (testing) and staging to production.
- Weekly management meetings with the DOIT staff assigned to the SLDS project.

Data Collection and Data Quality Enhancements:

CSDE has re-designed seven core data collection instruments to support inputs to the SLDS:

1. Directory Manager – a customized enterprise educational directory structure to support CSDE applications and services (*Project completed June 2008*)
2. The Public School Information System (PSIS) – a student-level roster and a snapshot collection application (October, January and June) of all active public school enrollments (approximately 600,000 students) in Connecticut. The application assigns a State Assigned Student Identifier to allow for the longitudinal tracking of students. The legacy version of PSIS began the SASID Assignment in 2005. (*Pilot deployment in February 2009 with a “go-live” production date of May 2009*)
3. The Prekindergarten Information System (PKIS) – a student level roster and snapshot collection application tracking approximately 20,000 prekindergarten students that receive services paid for with state and/or federal funding. Each of the students are assigned a SASID allowing for longitudinal tracking of this cohort as they migrate into PSIS, and the beginning of a PK-20 SLDS. (*Completed July 2008*)
4. Special Education Data Application and Collection (SEDAC) – is the primary means for tracking all federally-mandated (IDEA 2004) data regarding students with disabilities in the state of Connecticut. The application uses the SASID (State Assigned Student ID) to provide a direct connection to demographic and other data in PSIS. Within the SEDAC application, the State collects 37 IEP-specific data elements from districts/LEAs regarding instructional and related services. Reported data are used by the State to comply with all Federal and State compliance monitoring and reporting requirements. (*Completed December 2007*)
5. English Language Learner (ELL) Database – a student-level database that is populated from the PSIS roster (students – along with their SASIDs – having an ELL status of “yes”). The database collects LAS-Links scores and other assessment criteria and tracks the ELL cohort from their first date of service, through programs and testing, to their date of English language mastery. (*Specification and Design documents complete, application to be deployed May 2009*)
6. The School Facilities Report (ED-165) – a school-level collection of both directory and facility information for each public school in Connecticut. Some examples of the 390+ data elements are; hours/days of instruction, counts of computers by classroom, library information, and course offerings. (*Project completed September 2008*)

7. **Teacher Certification** – a web-based application that tracks all certified teachers. The application assigns each certified teacher a unique ID, and is designed to ingest the NCES Course Code definitions for tracking endorsements. These features were designed to facilitate the ability to integrate the Certification database to the annual Certified and Non-Certified Staff Collections. (*Anticipated “go-live” December 2008*)

In addition to the security and data collection enhancements CSDE has also engaged in several other over-arching projects related to the construction of a SLDS. They are as follows:

1. *Data Dictionary* - Connecticut has procured an online meta-data repository for the tracking of data collections and elements. Each element in the collections listed above have been entered in the application. The dictionary will be made public for researches and the general public in the summer of 2009.
2. *Schools Interoperability Framework (SIF) Vertical Reporting Module* - Connecticut has procured a SIF vertical reporting module and will install the Zone Servers and Student Locator Framework in March of 2009.
3. *Data Dissemination Enhancements* - In December of 2008, the first of many decision support tools will be piloted by the LEAs in the form of School and District Snapshots. The snapshots will consist of over 40 data reports for each school. The reports will allow for the drill-down of aggregate data through charting and SQL2008 reporting features. The Snapshots will additionally allow users to select data points from a school or district of focus and compare those data to up to five other schools or districts. Once the pilot is complete, CSDE will use this dissemination metaphor and leverage the Single Sign-On security function to allow authenticated LEA staff to drill from aggregate to student-level data when authorized, and with respect to FERPA regulations.
4. *LEA SLDS Advisory-Committee* – In December of 2005 CSDE engaged with over 20 LEAs in the state to serve as stakeholders on the SLDS Advisory Committee. The stakeholders are brought into each application and process build at the design level. The committee also validates prototypes of each workflow and application build. Eventually, many become pilot sites during early deployment.

While Connecticut has made progress toward the development of a longitudinal data system, the CSDE remains limited with its ability to link students with the courses they are taking and to the teachers who are teaching the courses, as well as with

sharing data with other agencies in order to evaluate the effectiveness of educational programs.

Although PSIS collects information about student demographics and program information, it does not contain information about the courses in which students are enrolled. The need for this information is becoming increasingly important as Connecticut moves forward with its Secondary School Reform initiative which includes an increase in the credits required to graduate, as well as mandatory course requirements. In addition, having course enrollment for each student would enable Connecticut to more effectively respond to Federal accountability requirements. Additionally, linking students with their courses would:

- a) Allow for more accurate reporting of course-taking behaviors, rather than relying on aggregate data reported by each LEA;
- b) Provide the opportunity to transition LEAs from using LEA-defined course information to state-wide adoption of the NCES SCED course taxonomy;
- c) Research course-taking patterns and the relationship with:
 - i. Performance on the Connecticut Academic Performance Test (CAPT);
 - ii. Performance on the SAT; and
 - iii. The need for remediation once the student enrolls in post-secondary education.

Connecticut also maintains a database of all certified staff in its public schools, including where they are teaching and the subjects taught. There is not, however, a connection between the teacher database and the student database. Having this linkage would allow the following:

- a) Dissemination of student-level state standardized assessment results to students' teachers, including the ability for a teacher to see state standardized assessment results from a student's earlier grades;
- b) Improvement in the ability to monitor the highly qualified teacher component of NCLB; and
- c) Provide information to the Department of Higher Education regarding how the graduates of their teacher preparation programs are faring in the classroom.

Connecticut is also interested in the long-term goal of extending its existing PK-12 system into a PK-16 data warehouse by creating cooperative data exchange programs with institutes of higher learning. A PK-16 data warehouse would serve to support analysis on topics such as:

- a) Providing feedback on the Secondary School Reform initiative;
- b) Identifying areas of improvement in readying students for post-secondary education; and
- c) Targeting resources more effectively to schools graduating students with a need for remediation.

(b) Objectives for Proposed System

1. Student-schedule-staff module

The goals of the student-schedule-staff module are to effectively track course-taking patterns for monitoring and evaluation purposes, and to more effectively determine highly qualified teacher status for NCLB. To that end, Connecticut will seek to achieve the following objectives:

1. Establish a statewide course code taxonomy using NCES course code standards;
2. Develop a vertical SIF component to facilitate the data transfer process between the SEA and LEA's student information systems;
3. Create a student-schedule-staff module and data mart that contains student demographic and assessment results data, course type, and associated teacher data such as age, years of experience, degree held, certification type, and teacher preparation program attended; and
4. Enhancement of secure data dissemination for SEA and LEA decision support.

(c) Project Design

1. Expansion Activity: Student-schedule-staff module

Objective 1: Establish a statewide course code taxonomy using NCES course code standards and develop intermediary application for course mapping.

Connecticut will convene a committee of LEA stakeholders to determine the scope of variability among course names and descriptors. Among the 25 LEAs represented in the SLDS Advisory Committee exists an array of Student Information Systems. Each of the major systems will be reviewed and documented by work-flow to better create an extensible intermediary application.

The intermediary application will be created to ingest LEA courses and cross-reference them to a standard state [NCES] taxonomy. LEAs therefore will not need to adopt the course taxonomy within their own student information systems (SIS). Each LEA will however, be required to map new courses in the intermediary application prior to data collections.

Objective 2: Develop a vertical SIF component to promote interoperability between the SEA and LEA

Connecticut will work in partnership with districts using the Powerschool[®] SIS to:

1. Create a Functional Requirements Document (FRD) for the Zone Integration Server (ZIS) installation and configuration, as well as the Powerschool[®] agent creation and/or integration;
2. Specify a data model for course-taking and completion information; and
3. Work with pilot districts to install and configure a ZIS within their application hosting environment.

Objective 3: Creation of student-schedule-staff module and data mart to store course taking and staff data

The current CSDE Public School Information System (PSIS) will require modifications to the current student Register/Unregister process and collection process to include the collection of schedule and teacher data.

1. The enhancements to PSIS will:
 - a) Leverage PSIS collection data and roster data to provide an authoritative active roster of Connecticut Public School Students for data collection and dissemination;
 - b) Allow the LEA to maintain their respective local student information systems (SIS) and input or upload CSDE collection data through a web-based facing application or a Schools Interoperability Framework (SIF)-type automated process;
 - c) Provide for the tracking of course enrollments at the student level;
 - d) Provide for the tracking of course completion (results) at the student level;
 - e) Provide for the tracking of the teachers for each course;
 - f) Provide for tracking the mobility of students from school to school and district to district within the state (i.e., both inter- and intra-district transfers);
 - g) Provide the ability to longitudinally track a student's educational record, to include course taking habits;
 - h) Provide improved education decision-making and instruction through the use of personalized, flexible, easy-to-use web-based tools; and
 - i) Compliance with state and federal laws that protect the confidentiality of student and staff information.
2. The enhancement of the SLDS to include a persistent data mart for schedule and teacher data will include:

a) Data Mart Schema – The schema will:

- i. be developed and documented in an industry standard case tool and rely on Joint Application Development (JAD) strategies to facilitate participation among the stakeholders in the enterprise;
- ii. identify the requisite objects and elements and document their relation and inter-dependency to the data storage, domain object, presentation and persistent layers; and
- iii. be presented in both a traditional schema metaphor for each relational layer and a star or consolidated dimensional hierarchy for the persistent layers.

b) Data Mart Specification – The specification will:

- i. define the business and functional requirements of each layer documented in the data schema and the data dictionary;
- ii. outline the technical processes for data extraction, staging, data verification, cleansing, consolidation and delivery; and
- iii. address the policies and procedures governing each of the objects/elements defined in the schema.

c) The Deployment of an Enterprise -wide Persistent Data Facility

Using the layers outlined in the Data Management Schema and Specification, build a pilot persistent data facility. The pilot will adopt the “lessons learned/proof of concept” approach and validate the schema and specification while mitigating the risks associated with full deployment. It will also serve as a way to build credibility and support for the data warehouse initiative. The pilot will be a short-term 60 to 90 day project and will include the following:

- i. the deployment of a scaled-down version of the data warehouse architecture in a single technical environment;
- ii. the utilization of standard data warehouse tools;
- iii. a multi-tier infrastructure for each layer;
- iv. the implementation of a scaled-down data acquisition plan from two sources; and

- v. the implementation of a scaled-down data delivery plan from an object considered value-added or of high priority.

d) The Deployment of an On-going Operation and Maintenance Strategy

- i. outline the short and long term data management objectives of the enterprise, the strategic plan to attain those objectives, the obstacles that may impede the attainment of the objectives and performance indicators to measure performance to the objectives;
- ii. document a strategy for future planning, forecasting and budgeting for the warehouse and the on-going management of each layer in the enterprise with particular emphasis on data integration and integrity;
- iii. document the support processes required to maximize the reliability of the infrastructure as well as a process for future planning, forecasting and budgeting for the warehouse; and
- iv. document the training processes required to ensure that stakeholders are able to leverage the investment in the data warehouse to its fullest extent.

The specifications for the deliverables will be specified in a Business and Functional Requirements document. The documents will be drafted with input from SEA technical and business analysts, and data stewards. The documentation process will also include LEA members of the LEA Advisory Committee.

Objective 4: Enhancement of secure and public dissemination of the student-schedule-staff data mart

The decision support component will include functionality to facilitate CSDE and LEA leaders, principals, and teachers, to control, query and summarize information in a secure, intuitive and user-friendly manner. The component will additionally include the ability to provide in-depth analysis of student performance on state standardized tests, course participation/completion, locally administered low-stakes tests and aggregate (historical) facility and district information. Low-stakes results and their respective meta-data will be specific to each LEA. The data will be drilled and/or exported vertically and multi-dimensionally to view and report on data at many different levels. The decision support component will provide functionality that allows the user to select various output options such as charts, graphs, maps, extracts and exports (.xls, .csv, .xml, etc.).

The dissemination enhancements will address the following decision support components

1. The enhancement of the portal for school organizations

2. Analyze student demographic characteristics (i.e., racial composition, poverty, English Language Learner status) as they relate to course participation/completion
3. Analyze student achievement data by and across grade level(s) and course participation/completion with a high performance/low performance dimension
4. Analyze program course participation/completion and enrollment trends
5. Analyze student achievement data by grade, class and school levels to identify cohorts for intervention
6. Report on and view historical trends related to achievement
7. Disaggregate and aggregate assessment and course participation/completion data by subpopulation groups
8. Disaggregate and aggregate assessment data by program participation and course participation/completion to identify program effectiveness
9. Disaggregate and aggregate assessment data and course participation/completion across subpopulation groups and programs
10. Identify students falling below achievement levels by content area, reporting categories and course participation/completion data
11. Identify strengths and weaknesses among subpopulations, schools, grades, classes, etc. in each of the content areas and reporting categories
12. Compare district, school and/or student performance over time reported by course participation/completion and demographic characteristics of students for the purpose of reporting on trends among subgroups
13. Disaggregate and aggregate data by enrollment, attendance, dropouts, graduates and course participation/completion to report on the population of a district or facility
14. Compare achievement among schools and districts with similar characteristics
15. Comply with FERPA reporting requirements and suppress cells in aggregate dissemination to ensure that students are not personally identifiable

Each LEA, as well as members of the public, will be granted access to the crosswalk of LEA-defined course names to the standardized state course taxonomy. Users will be able to see LEA-to-LEA mappings of specific courses. This will allow for the following outcomes:

1. The ability for the public to compare the depth and breadth of courses offered by different LEAs;
2. Transcripts of transferring students will acquire better meaning;
3. Better understanding of the educational experience of students transferring between LEAs; and
4. Placement of transferring students into more appropriate classes based on prior course-taking habits.

(d) Institutional Support

The leadership, including the Commissioner, of the CSDE fully supports this project as it will provide the tools necessary to evaluate the outcomes and consequences of the secondary school reform initiative. In addition, the Connecticut legislature allocated monies to the CSDE for the initial development of the SLDS for fiscal years 08 and 09. The CSDE will request additional state resources in its upcoming 2009-10 and 2010-11 budget cycles.

Relative to enterprise-wide architecture and application hosting, the Department of Information Technology (DOIT) has provided a team of highly qualified individuals who provide; security, database, application, project management and help desk functions.

(e) Project Management

The Student-schedule-staff module will be managed at CSDE by the Bureau of Data Collection, Research and Evaluation, and the Bureau of Information Technology.

All technology projects at CSDE are subject to a rigorous project management process. Each week the Development Team meets with CSDE management and outlines the project's defined milestones noting successes, blockers, risks, and risk mitigation if necessary. In addition, all projects undergo a rigorous review process by the Project Management Office at the Department of Information Technology (DOIT), using a standardized software development methodology.

Each task is managed electronically using a Work Breakdown Structure (WBS) with a goal of compliance to the principles of the Project Management Institute. Most notably that the sum of the work at the "child" or "sub-task" level must equal 100% of the work represented by the "parent" or task level. Each invoice is matched to a WBS in the project plan prior to the disbursement of funds.

Aside from the detailed WBS, the project management process at CSDE includes working narratives for each milestone. The narratives include:

1. the objectives of the project;
2. the current phase of the project (planning, documentation, procurement, development, testing, and deployment);

3. a staffing wheel noting project sponsors, managers, technical leads, inter-agency responsibilities and stakeholders; and
4. risk identification and mitigation strategies.

CSDE attends weekly meetings with DOIT to review the projects in a scope of 120 day deliverables and makes changes to the plans if necessary.

(f) Project Personnel and Resources

Management

Barbara Q. Beaudin

Dr. Beaudin is the Associate Commissioner for the Division of Assessment and Accountability for the Connecticut State Department of Education. Dr. Beaudin holds a bachelor's and master's degree in mathematics, and a Ed. D. in Administration, Planning, and Social Policy. She worked for 16 years in the Farmington, CT. public schools as a mathematics teacher and administrator and 12 years at the University of Hartford as a mathematics professor and administrator. Barbara began working at the Department in 1986 on a consulting basis for a variety of research projects focusing on teacher and administrator supply and demand. In 2000, she moved from the University to CSDE to take a program evaluation position in the Division of Research and Evaluation has been the Bureau Chief in the Bureau of Student Assessment since 2003 and Associate Commissioner for the Division of Assessment and Accountability since August 2007.

Sarah Ellsworth

Ms. Ellsworth is the Bureau Chief for Data Collection, Research and Evaluation and has been with the Connecticut State Department of Education for 10 years. For the last six years she has been the coordinator and lead analyst of the No Child Left Behind (NCLB) accountability system in Connecticut. In her role as Bureau Chief, Sarah oversees all state and federally mandated data collection, analysis, and reporting requirements; serves as a Project Director for the development of the State Longitudinal Data System for education data; and provides support and guidance within the Department and across the public education sector on the effective and appropriate use of data.

Gregory P. Vassar

Mr. Vassar has provided public service to the State of Connecticut for 36 years serving in the Judicial Branch, Department of Labor, Department of Public Safety, and the Department of Education. He has over 31 years of experience in the information technology field with background ranging from information technology management, technical systems administration, systems analysis and design, programming and computer operations.

Mr. Vassar has held the position as Technology Systems Director in the Bureau of Information Technology at the Connecticut State Department of Education for the past 17 years. As Technology Systems Director he is responsible for all aspects of

information technology which include; administration of Bureau of Information Technology that includes Technical Support & Operations and Application Development units, development and administration of I.T. budgets, development of agency strategic direction for information technology, management of WAN and LAN infrastructure and operations, and project manager for large scale agency projects.

Development Team

Mark Vocca

Mr. Vocca is the lead systems analyst for the department will act as one of the Project Managers overseeing the daily activities outlined in this grant. Mr. Vocca has been with the department since 1992 and brings over twenty years of database design and system analysis experience to the project. Mr. Vocca currently co-manages the CSDE Statewide Longitudinal Data System (SLDS Phase I) a 3+-year, multi-million dollar project using both federal and state funds to design and implement a data warehouse for educational data, as well as revise and integrate many of the disparate data collection applications currently used to fulfill state and federal reporting requirements. He managed the Request For Proposal process and lead vendor negotiation meetings. He is responsible for sign-off on all Functional Requirements Documents and User Acceptance Testing. Mr. Vocca will allocate 95% of his time to the project.

David M. Williamson

Mr. Williamson has over 20 years of experience in the Information Technology field, concentrating on systems interoperability, object-oriented analysis and design, and database and data warehouse design and development. He has held certifications of Microsoft Certified Trainer, Microsoft Certified Database Administrator, Microsoft Certified Solutions Developer, and Microsoft Certified Systems Engineer.

In his current position as an Information Technology Analyst in the Bureau of Information Technology at the Connecticut State Department of Education (CSDE), Mr. Williamson is the technical lead for the CSDE Statewide Longitudinal Data System (SLDS Phase I), a 3+-year, multi-million dollar project using both federal and state funds to design and implement a data warehouse for educational data, as well as revise and integrate many of the disparate data collection applications currently used to fulfill state and federal reporting requirements. Mr. Williamson will allocate 75% of his time to the project.

Kevin Graham

Mr. Graham is the lead Analyst/Developer for web based data collections for the department. His body of work includes the development of the Public School Information System (PSIS), and the Connecticut LEA Staff database. His development platforms include Microsoft .Net, SQL, ASP, Crystal Reports and SQL Reporting Services. Mr. Graham's development expertise will be utilized to assist with drafting specifications, selecting vendors and overseeing development activities as outlined in this grant. Mr. Graham will allocate 45% of his time to the project.

Project II. Interoperability with Connecticut's Department of Higher Education and Department of Labor

(a) Need for the Project:

Needs and Uses

Connecticut is very interested in creating interoperability between its Public School Information System (PSIS) and postsecondary and workforce data systems for research, evaluation, management and policy development purposes. While the state has had some early success with linking data among these entities for performance measure reporting purposes and special research projects, it needs to build a more streamlined, sustainable and robust capacity for longitudinal student tracking and analysis in a manner which ensures data integrity and privacy protection. In particular, Connecticut needs interoperability to provide its stakeholders with access to high quality information about the success of its students along the educational continuum and to improve student achievement among all students at all levels. Information on student progression through high school and beyond is central to evaluating the effectiveness of Connecticut's Secondary School Reform initiative and to collegiate efforts to increase student persistence and success through college and on into the workforce. Products gained through the work proposed under this grant will position the state to answer key policy questions as summarized in Attachment A-1.

Our ability to examine post-secondary data about student performance in college and the types of employment graduates pursue and the wages they earn when they enter the workforce would provide powerful indicators to examine the longer term effects of a higher quality secondary school education. This would also help Connecticut determine whether the reform efforts are working equally well for all students, with a focus on students with disabilities, English language learners and high poverty students. Historically in Connecticut, there have been, and continue to be, large gaps in performance between these groups of students and their white, non-disabled, English speaking, more affluent peers, across all indicators of secondary school performance.

(b) Objectives for Proposed System

Status of Current Interoperability

Connecticut's public system of higher education consists of four "constituent units" which include the University of Connecticut, Connecticut State University system, Connecticut Community College system and Charter Oak State College. Each of these units maintains its own student information system using several different vendor software products which make data transfer and sharing complex and time consuming. In addition to these individual systems, the CT Department of Higher

Education maintains a rudimentary Higher Education Information System (HEIS) which was implemented in the early 1980s. This system includes a student unit record (SUR) database and a data dictionary that includes standard definitions of certain student identifiers and demographics, pre-college attendance elements such as year of high school graduation and SAT scores, and credit hour completion. While this system has been used for such research activities such as student migration studies within the public system, it does not include student outcome data such as course and degree completion nor does not include information on students who attend the state's independent colleges or out-of-state institutions. (About 22% of Connecticut residents attending college in-state attend an independent college; almost 43% of CT public high school graduates initially attend college at an out-of-state institution). As such, it does not lend itself to the kinds of research and evaluation of student progression and success that Connecticut requires.

The CT Department of Higher Education also has negotiated data exchange agreements among each of the constituent units and the CT Department of Labor for performance and labor market outcome reporting purposes. More information on the CT Department of Labor's experience with linking administrative records for employment outcomes and other research is provided on Attachment A-2.

More recently, the CT Departments of Higher Education, Education and Labor have entered into an interagency partnership to exchange data for a cross-sectional, time-series analysis of educational and labor market outcomes of several cohorts of 10th grade students who took Connecticut's 10th grade achievement test. A fuller description of this effort entitled "Next Steps" is provided in Attachment A-3. The database from this study is currently housed in a secure environment within the CT Department of Labor and will serve as a foundation laboratory for further interoperability development.

Project Objectives:

The long-term goals of interoperability with postsecondary education and workforce information are to improve student achievement and success among all students at all levels and to provide Connecticut stakeholders with timely and comprehensive information about the success of its students along the education and employment continuum. To reach these goals, Connecticut envisions the development of a data exchange rubric that will facilitate longitudinal student tracking, research and evaluation.

Over the next three years, Connecticut seeks to achieve the following objectives in moving toward achieving that goal:

1. Establishment of an on-going Interoperability System Council to govern data exchange and research activities.
2. Identification and adoption of a core set of data elements defined and coded in standard format

3. Development of a model for a secure data environment for data exchange and student record matching from K-12, higher education, and labor department employment records
4. Development and adoption of a privacy protection policy, data exchange agreements and confidentiality protocols for database access and uses.
5. Development of a data auditing model to ensure data quality, validity and reliability
6. Increased support among state policy leaders and other stakeholders by demonstrating the usability and sustainability of longitudinal student data systems
7. Exploration of the feasibility of including data from independent institutions of higher education and out-of-state institutions, including an assessment of the strengths and weaknesses of utilizing available national sources of student information such as the National Student Clearinghouse and College Board.

(c) Project Design

The Connecticut Department of Education is seeking grant funding for the following activities to support its interoperability objectives:

Objective 1: Establishment of an on-going Interoperability System Council to govern data exchange and research activities.

While overall grant activities will be overseen by Connecticut's PK-20 Council, the CT Departments of Education and Higher Education will jointly appoint an Interoperability System Council which will include representatives of each of these departments, the CT Department Labor, and each of the constituent unit of higher education. Council membership may be expanded to include other state stakeholders with database development and/or research and evaluation expertise as needed. This Council will be responsible for ensuring progress and outcomes of interoperability initiatives. A council information exchange portal will be developed and hosted by the CT Department of Higher Education to facilitate communication and product dissemination. The Council will meet no less than four times each year. An active advisory council will be necessary to ensure continued cooperation and buy-in from data sharing partners and users of data sharing products. Grant funds are requested to offset meeting expenses and for communication portal development.

Objective 2: Identification and adoption of a core set of data elements defined and coded in standard format

Connecticut plans to undertake a thorough assessment and identification of core data elements required for longitudinal student tracking between K-12, higher education and the workforce for research and evaluation purposes. It will review existing data dictionaries and incorporate new and/or revised elements, and create an agreed upon virtual data dictionary for interoperability purposes. A partial list of the types of data elements which will be required from is provided on Attachment A-4. It also is

necessary to complete a full documentation of the Next Steps database, including data elements and definitions, and student matching protocols and algorithms.

It also plans to conduct an examination of at least two other state's interoperability models to determine the efficacy of those models or components of those models for Connecticut. An RFP will be issued to engage consulting services to assist with this effort and a consulting contract will be awarded to an appropriate vendor. A report with recommendations will be issued at the end of that examination. This review is critical to understanding best practices and experiences with developing interoperability arrangements between separate educational and workforce entities. Grant funds are requested to develop the data dictionary, document Next Steps database, acquire appropriate data dictionary software and middleware solutions, and for consulting services.

Objective 3: Development of a model for a secure data environment for data exchange and student record matching

Connecticut plans to develop and adopt a model for a secure data environment for data exchange, transformation and loading (ETL). It will specify data export and delivery protocols, design a model data storage structure, develop transformation and loading schemas for each agency/constituent unit, develop a secure location for extracted data, and establish procedures for stripping personally identifiable data from records after data matching. Connecticut also will undertake a pilot data exchange and student matching project. Grant funds are requested for staff support and consulting services to complete these projects.

Objective 4: Development and adoption of a privacy protection policy, data exchange agreements and confidentiality protocols for database access and uses.

Connecticut will develop and adopt a privacy protection policy for its interoperability activities. It will reexamine and revise existing data sharing and confidentiality agreements governing access to and use of data by participating agencies, employees and/or other individuals.

Objective 5: Development of a data auditing model to ensure data quality, validity and reliability

Connecticut's ability to answer its key policy questions and improve the educational attainment levels of its students is only as good as the data upon which decisions are made. Accurate and timely reporting of data is essential and Connecticut needs to implement appropriate checks completion and accuracy through an appropriate data audit system. In addition, it is essential for reporting entities to have clear and unambiguous reporting rules which will be made widely available through written materials accessible through the data dictionary and through staff training. Also, on-going interaction and deliberations between participating data exchange partners must occur as the data exchange process expands and evolves. Grant funds are

requested for initial staff support, consulting services to develop the recommended data auditing system, written instructional materials, and staff training.

Objective 6: Increase support among state policy leaders and other stakeholders by demonstrating the usability and sustainability of longitudinal student data systems

This, in many respects, is the highest priority project for Connecticut in its quest to ensure ongoing financial and political support for interoperability efforts. A system that collects data that is never used to meet state needs is not worth sustaining. Connecticut is planning to demonstrate the benefits of data interoperability early on in the grant period through further data mining and research analysis of the Next Steps database. It will produce a datamart of findings and minimum of two policy reports for dissemination among state policy makers and other stakeholders. In addition, Connecticut will develop and disseminate a high school feedback report which will provide LEAs with information on the progress and success of their graduates into college and on to the workforce, with more specific information on those who attended a Connecticut public college. Grant funds are requested for research support, analytically software and data mart development.

Objective 7: Exploration of the feasibility of including data from independent institutions of higher education and out-of-state institutions, including an assessment of the strengths and limitations of utilizing available national sources of student information such as the National Student Clearinghouse and College Board

Connecticut also plans to explore opportunities for data exchange with independent institutions of higher education licensed by the Department of Higher Education and with out of state institutions. It also will utilize other national databases such including the National Student Clearinghouse and College Board, and document both the strengths and limitations of using those systems for longitudinal tracking purposes. Grant funds are requested for subscription fees.

Governance

While state and local stakeholders are already involved in the development of the CT K-12 SLDS, the governance structure would need to be expanded for interoperability with postsecondary education and workforce data systems. Connecticut will utilize its P-20 Council as the project's steering committee. In addition, an interagency council composed of representatives of the CT State Department of Education, CT Department of Higher Education and its public institutions, and CT Department of Labor will serve as the programmatic and technical implementation committee.

(d) Institutional Support

Connecticut has invested significantly in student systems at each of its constituent units of public systems of higher education. Each of these units has the technical capacity and resources for periodic data exchanges to achieve SLDS goals. The Department of Higher Education's budget for 2009-11 will request will include state resources to support interoperability efforts within higher education. Letters of support from these units and from other key state stakeholders is provided on Attachments A-5 through A-7.

(e) Project Management Plan

The project will be overseen by the office of the Associate Commissioner for Assessment and Accountability at the Connecticut State Department of Education and by the office of the Associate Commissioner for Higher Education Research, Policy and Financial Analysis at the Connecticut Department of Higher Education. The operability development team will report to the management team on a weekly basis to ensure adherence to the budget and timelines.

The State of Connecticut's Department of Information Technology (DoIT) will act as an additional oversight entity. Each RFP that requires a technology infrastructure will be subject to the protocols of state contract language and award procedures that are juried by DoIT.

The business requirements for this project will identify stakeholders and collaborating entities for each deliverable. At a minimum the stakeholders will include Departments of Education, Higher Education and Labor.

(f) Project Personnel and Resources

Management

Barbara Q. Beaudin is the Associate Commissioner for the Division of Assessment and Accountability for the Connecticut State Department of Education. Dr. Beaudin holds a bachelor's and master's degree in mathematics, and a Ed. D. in Administration, Planning, and Social Policy. She worked for 16 years in the Farmington, CT. public schools as a mathematics teacher and administrator and 12 years at the University of Hartford as a mathematics professor and administrator. Barbara began working at the Department in 1986 on a consulting basis for a variety of research projects focusing on teacher and administrator supply and demand. In 2000, she moved from the University to CSDE to take a program evaluation position in the Division of Research and Evaluation has been the Bureau Chief in the Bureau of Student Assessment since 2003 and Associate Commissioner for the Division of Assessment and Accountability since August 2007.

Mary K. Johnson is the Associate Commissioner for Higher Education Research, Policy and Financial Analysis for the Connecticut Department of Higher Education. Her primary responsibilities include research and financial analysis, policy development, and student financial aid administration. Mary leads Connecticut higher education's annual accountability reporting process, *Higher Education Counts*. She also monitors and reports on the condition of postsecondary education in Connecticut, most notably through the Department's annual *System Trends* report. Prior to coming to the Department in 1983, she served as staff to the Connecticut General Assembly's Education Committee through the Office of Legislative Research.

Robert J. Lucco oversees the accurate and timely development, administration, scoring, analyses and reporting of all statewide student assessments, including CMT, CAPT, alternate assessments based upon alternate or modified academic achievement standards and the Kindergarten Inventory. Dr. Lucco provides leadership in support of the three State Board of Education goals (i.e., 1) early childhood education, 2) high academic achievement for all students and 3) secondary school reform) by addressing the following areas: maintaining and improving the quality of statewide student assessments; expanding and improving the scope of analyses using statewide student assessment data; and improving the dissemination of student assessment data. He also ensures the compliance with all state and federal requirements governing the reporting of student accountability data and development of data systems to facilitate the assessment of individual student growth over time. Dr. Lucco has worked to expand the use of the agency's technology infrastructure to improve program efficiency and effectiveness and thus providing increased service to our client base, as well as assisted local school district personnel in the access and use of student assessment data.

Operability Development Team

Roger Therrien is the Director of Research for the Connecticut Department of Labor, where he is responsible for many of the primary economic statistics and occupational and career information produced for Connecticut, as well as for many unemployment insurance and employment service management reports for the Department of Labor. In his position, Roger has had a lead role in the development and delivery of labor market information for the workforce development system in Connecticut.

Among his diverse experiences, Roger has participated on numerous State committees and task forces and is a member of the Hartford Area Business Economists. He is also currently Executive Director of the Connecticut Career Resource Network, a member of the National Association of State Workforce Agencies' Labor Market Information Committee, and has been involved in a number of national policy and research workgroups working towards enhancing the quality and availability of economic and workforce information in the United States. He currently serves as New England's representative to the Workforce Information Council, the national body of federal and state officials responsible for guiding the development and improvement of workforce information nationwide. Roger

obtained his Bachelors Degree from Gettysburg College and his Masters Degree from the University of Hartford.

Nicholas Jolly is an economist in the Office of Research. He received his Bachelors Degree in managerial economics from Bentley College and his Masters Degree in economics from the University of Connecticut. Currently he is enrolled in the economics doctorate program at the University of Connecticut and is pursuing a concentration in labor economics. He has completed all required course work and passed all required examinations. Nicholas' research interests focus on displaced workers, income mobility, the older demographic, and applied microeconomics. He has authored/coauthored several manuscripts for the Office of Research and has had his research cited in the *Hartford Courant*, the *Fairfield County Business Journal*, and Connecticut Public Television. Nicholas is a member of the Hartford Area Business Economists and the Population Association of America.

Liam McGucken is an Information Technology Analyst in the Connecticut Department of Labor's Office of Research. Liam has provided the Office of Research with a wide range of information technology services in support of reporting and performance metrics efforts. He is also responsible for maintaining numerous data stores unique to the Office of Research. Liam greatly contributed to the development of the Unemployment Insurance Profiling Model, which is a statistical model that predicts the probability of exhausting unemployment insurance benefits.

Dana Placzek is a Research Analyst in the Office of Research of the Connecticut Department of Labor. His expertise involves working with large administrative data sets to assess and summarize information for agency and workforce system management and planning. Most recently, Dana has been extensively involved with efforts to evaluate education and training programs for their effectiveness in preparing students for employment. Dana has also used educational data in preparing the Legislative Report Card tables and the tables used in the publication "Higher Education: Building Connecticut's Workforce." He has also developed and produced the key employment and earnings outcome performance measures for the State's workforce system since 2001.

Joanne Weisskopf is the Director of Computer Operations for the Connecticut Department of Higher Education. She received her Bachelors Degree in Computer Science from the State University of New York at Albany. She is a database programmer/analyst with over 25 years experience in the design and implementation of computer based solutions for higher education systems. She has designed and is responsible for maintaining student, financial aid, licensure and accreditation, and Alternate Route to Certification database systems. She also has extensive knowledge with the development of web-based systems.

Project Narrative

Other Narrative

Attachment 1:

Title: Pages: Uploaded File: 1236-AppendicesA-C.pdf

Attachment A-1

TRACKING STUDENT PROGRESS FROM HIGH SCHOOL TO COLLEGE TO THE WORKFORCE: WHY IT'S IMPORTANT

Key State Policy Questions for Connecticut

Are enough Connecticut high school students prepared to succeed in college?

Are Connecticut residents succeeding in college once they get there?

Do Connecticut residents have affordable access to college?

Are there other barriers for attaining a college degree?

Are Connecticut colleges and universities producing enough prepared graduates to meet current and future workforce needs and demands?

How can CT higher education improve or contribute more to the state's economic vitality?

What is the state's return on investment for its financial investment in higher education?

Underlying Questions

High School to College Questions

What are the essential courses of study that students need to have mastered to be successful in college? How many of our students have attained that mastery?

How prepared are Connecticut's high school students to succeed in college? Where are the gaps?

What does Connecticut need to do to ensure more students are prepared for college and how will we know if progress is being made?

Where do Connecticut's "college ready" high school graduates end up (2-year; 4-year; public-private; in-state or out-of-state)?

Why is a college education so important to Connecticut's economic vitality?

What difference does a college education in terms of wage potential?

Why aren't more students enrolling in college what are the barriers?

What happens to Connecticut's high school students who do not go on to college?

Is Connecticut retaining its best and brightest college freshman?

Is there a specific high school course of study or curriculum that leads to more students pursuing STEM-related programs in college?

In-College/College to College Questions

Why is Connecticut's educational attainment rate (as measured by the percentage of adults with bachelor's degrees) declining?

What are the best predictors of college success?

How much developmental/remedial instruction is taking place on our college campuses and is the need growing?

Can our colleges provide meaningful feedback to local high schools on what knowledge/skill areas are lacking in their graduates?

How successful are students who enroll in remedial coursework? What models work best?

Do students who successfully complete remedial coursework go on to successfully complete their degree?

What are the critical junctures in a student's college path that signify increased risk of dropping out or conversely, bolster the chances of successful completion?

What happens to students who start their college experience at a community college? Do results vary by socio-economic factors?

Are students successfully transferring from one institution to another and completing their degrees (without having to take excess credits)?

How many students are enrolling in the more challenging STEM courses while in college and has this trend change over time?

Do students who start out in a STEM major tend to stick with it? If not, why?

College to Workforce Questions

Are there leaks in the educational pipeline from high school to college to work? If so, where and among which students?

Do Connecticut's best and brightest who leave CT to attend college come back to live and work here?

Is Connecticut higher education producing enough graduates in the fields most in demand in our economy?

What is Connecticut's return on investment in higher education in terms of wage earnings of employed graduates?

What are the top fields of study that Connecticut should be promoting to ensure enough qualified applicants for further workforce development?

How well are our students prepared for success in the workplace?

How satisfied are CT employers with our graduates (and does this vary by industry or type of graduate)?

What are specific areas in need of improvement? Can we develop more formal feedback mechanisms between companies and institutions?

How important is participation in internships to future workforce success?

What are the keys educational elements of student success in the workplace?

What specific areas of the workforce are not being served well by higher education?

Does completion of an academic credential make a difference in terms of workforce success?

Which industries/companies are hiring the most graduates and why?

Which industries are not hiring our graduates, but are employing many highly paid people?

Could the results of our studies be used by our institutions to attract more highly qualified out-of-state students who potentially could become part of our workforce?

Attachment A-2

The CTDOL Office of Research has used linked administrative data to successfully conduct research projects and program evaluations. A long-term goal has been to extend those linkages to other areas in which research can be conducted to assist policy-making and program management. Thus, funding for this project will serve as an aide to building Connecticut's analytical capacity to generate information that can be used to improve instructional programs from K-20 by providing educational administrators with detailed, comprehensive information regarding the employment outcomes of Connecticut's students. Since the education pipeline is the primary source of talent for the workforce, this information will equally serve the needs of those whose responsibilities are more broadly focused on workforce development policy and planning and the knowledge and skills needed to support a competitive economy.

The CTDOL's Office of Research is the entity designated by the Governor to coordinate the development of employment statistics in Connecticut in accordance with the Workforce Investment Act. The Office and its staff have many years of experience employing rigorous standards for the conduct of large-scale surveys, forecasts, and impact studies. As the prime source of labor market information in the State and a long-time producer of unemployment insurance and employment services program information, the Office of Research has a keen awareness of factors affecting the State's economy and workforce as well as sound knowledge of employment service program operations.

Over the past ten years, the Office of Research has accumulated experience using wage records for various analytical purposes, including a longitudinal program evaluation of workforce development services and the development of performance measures for Connecticut's workforce development system. This has included reporting on the employment outcomes of graduates of the public system of higher education in Connecticut. The Office of Research and its staff have recently completed several projects analyzing the effects of mass layoffs on workers' long-term earnings, with specific focuses on prime age workers, older workers, and business cycle impacts. Two of these recent studies have been accepted for publication in research journals. Currently, staff is involved in a program evaluation making use of linked administrative records to analyze the impact of employment services on the outcomes of displaced workers.

The studies conducted at the CTDOL and their acceptance by the research community indicates the technical capability to address the education and workforce questions that may be answered through partnership with the education community. The experience of the CTDOL in building analytical files from administrative records has taught members of the team that will be involved in this project about many of the difficulties one faces in arranging the data for analysis as well as concerns that must be addressed in assuring the representativeness of the resulting analytical files. We believe this experience will serve us well as we seek to develop the information that will help instructional programs better meet the talent needs of Connecticut's future workforce.

As the prime source of labor market information in the State, the CTDOL Office of Research can also bring into the analysis its experience and understanding of the labor market and the market's potential influence on the employment outcomes of students, including information on the industries in which they become employed, the education and training generally required by employers, occupational licensing required for many positions, the extent and duration of job changing before stable employment is attained, the relative demand for occupational skills in the labor market, and the general state of the economy.

Attachment A-3

Summary of Next Steps Study

The Next Steps study, funded through a grant from the Nellie Mae Foundation to the CT Department of Higher Education, tracked five cohorts of Connecticut 10th grade students who took the Connecticut Academic Performance Test (CAPT) between 1996 and 2000 over 8.5 years beyond high school. It followed these students through their college experiences and/or into the labor force to document students' success in moving through college, earning an educational credential and early achievements upon entering the workforce. The database that was constructed to undertake this study was the results of collaborative contributions and contractual participation of many different state agencies and organizations. The CT Department of Education provided information on the initial cohort of CAPT test takers; the CT Department of Higher Education facilitated a data exchange within CT public higher education which provided data on college courses taken and student success (i.e. GPA and degree completion); the National Student Clearinghouse provided attendance dates and other degree related information; the College Board contributed SAT test scores, demographic profiles and self-reported high school course work; and the CT Department of Labor linked cohort data with wage record data files to determine employment outcomes. Initial analysis of the dataset found that over 27 percent of the students in the study did not pursue any higher education after high school. It also suggests several channels of "brain drain" whereby higher CAPT achievers either do not attend college at all, choose to attend college out-of-state or do not stay in the Connecticut workforce. It also confirms national trends which indicate that earnings of students attending post-secondary education start at higher salaries and rise faster than earnings of student who do not pursue higher education.

Attachment A-4

Types of Data Elements Required for Longitudinal Student Tracking in Postsecondary Education and the Workforce

- Student Identifiers (to provide the ability to match P-12 through college and into workforce)
- Student Demographic Indicators
- High School Progress
 - Achievement Test Scores
 - Course completion
 - GPA
 - HS Completion
- Postsecondary Attendance and Progress
 - Enrollment
 - Persistence and graduation data (degree completion)
 - Transfer data
 - Placement test data
 - Remedial/Development course taking and completion
 - Course/Transcript level data (e.g. credits attempted, credits completed)
 - Academic Achievement Indicators (cumulative credit hours, GPA, graduate school test scores)
- Employment Data (in state and surrounding states)



September 19, 2008

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

Dear Dr. Gould:

I write to offer the Charter Oak State College's endorsement of the IES Statewide Longitudinal Data Systems Grant proposal submitted under the auspices of the Connecticut State Department of Education (SDE) and in partnership with the Connecticut Department of Higher Education (CT DHE).

Charter Oak State College is a non-traditional college designed to provide adults with alternative means of earning associate and baccalaureate degrees. It currently services over 3,000 students and graduates almost 500 each year. We are very interested in expanding data interoperability opportunities to help us answer key state policy questions about the success of all students along the education continuum and on into the workforce. Linking P-12 and postsecondary student-level data will help strengthen college readiness, persistence and completion through on-going feedback and assessment activities. Development of this data exchange capacity will require careful planning and interagency cooperation, strong student privacy protection and appropriate data quality policies and protocols.

As indicated in the grant proposal before you, Connecticut has demonstrated its willingness to work cooperatively across agency and institutional lines to improve student achievement. Charter Oak State College is committed to moving forward and working cooperatively with its state partners to develop a more robust and sustainable interoperability model for Connecticut.

Thank you for consideration of this grant application.

Sincerely,

Ed Klonoski
President
Charter Oak State College

55 Paul J. Manafort Drive, New Britain, CT 06053-2150
phone 860.832.3875 | fax 860.832.3828 | Eklonoski@charteroak.edu
www.charteroak.edu An Equal Opportunity Employer



University of Connecticut
Office of the President

Michael J. Hogan
President

September 22, 2008

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

Dear Dr. Gould,

I write to offer the University of Connecticut's endorsement of the IES Statewide Longitudinal Data Systems Grant proposal submitted by the Connecticut State Department of Education in partnership with the Connecticut Department of Higher Education.

As Connecticut's flagship public research institution, UConn enrolls over 29,000 students and graduates almost 6,900 each year. We are very interested in expanding opportunities to help us answer key state policy questions about the success of all students along the education continuum and on into the workforce. As indicated in the grant proposal before you, Connecticut has demonstrated its willingness to work cooperatively across agency and institutional lines to improve student achievement.

Development of this data system will require careful planning and interagency cooperation, strong student privacy protection, and appropriate data quality policies and protocols. The University places a high priority on keeping the personally identifiable information of our students confidential. To that end, the University looks forward to providing data in accordance with its information and privacy policies, and consistent with the protections/limitations enumerated in the Gramm-Leach-Bliley Act, Family Educational Rights and Privacy Act, and the March 15, 2007 Connecticut Attorney General guidance on student data.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Hogan".

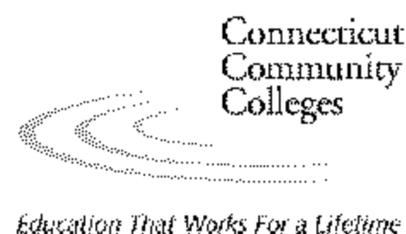
Michael J. Hogan
President

C: D. Evanovich
G. Garber
P. Roelfs
S. Brohinsky

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352 Mansfield Road Unit 2048
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Telephone: (860) 486-2337
Facsimile: (860) 486-2627
e-mail: Mike.Hogan@uconn.edu



September 18, 2008

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

Dear Dr. Gould:

I write to offer the Connecticut Community College's endorsement of the IES Statewide Longitudinal Data Systems Grant proposal submitted under the auspices of the Connecticut State Department of Education and in partnership with the Connecticut Department of Higher Education. The system is composed of 12 community colleges which collectively enroll over 50,000 students and graduate almost 5,000 each year. We are very interested in expanding data interoperability opportunities to help us answer key state policy questions about the success of all students along the education continuum and on into the workforce.

Linking P-12 and postsecondary student-level data will enhance college readiness and encourage college enrollment, persistence, and completion through on-going feedback and assessment activities. Development of this data exchange capacity will require careful planning and interagency cooperation, strong student privacy protection, and appropriate data quality policies and protocols.

As indicated in the grant proposal before you, Connecticut has demonstrated its willingness to work cooperatively across agency and institutional lines to improve student achievement. We are committed to moving forward and working cooperatively with state partners to develop a more robust and sustainable interoperability model for Connecticut.

Thank you for your consideration of this collaborative proposal.

Sincerely,

A handwritten signature in cursive script that reads "Marc S. Herzog".

Marc S. Herzog
Chancellor

Mary K. Johnson

(b)(6)

EXPERIENCE: Connecticut Department of Higher Education, Hartford CT

2001-Present Associate Commissioner, Higher Education Research, Policy and Financial Analysis

- Exercise effective management and supervision over budget and facilities, student financial aid, and data collections and research
- Advise the Commissioner on financial policy and performance
- Develop and advocate for the consolidated operating and capital budget requests for higher education
- Develop and coordinate the annual accountability reporting process for higher education
- Develop and implement appropriate financial and research data collection and reporting mechanisms
- Oversee the administration of the state's student financial assistance, higher education matching and endowed chair programs
- Serve as project manager on federal and other external grants
- Coordinate communications and act as liaison with appropriate executive and legislative offices on matters related to higher education budget, finance and research issues

1983-2001 Chief Fiscal Officer, Director, Associate Director, Assistant Director

EDUCATION: Master of Public Affairs
University of Connecticut, Storrs CT (1981)

Bachelor of Arts
Major: Sociology Minor: Economics
State University of New York, Cortland NY (1978)

SELECTED

PUBLICATIONS: Connecticut Department of Higher Education:

- *Higher Education Counts: Accountability Measures for the New Millennium (Annual Report)*
- *Higher Education: Building Connecticut's Workforce (2007)* Joint Report with the Department of Labor

Johnson, Mary K. (2006) "Accountability in Connecticut." In N. Shulock (Ed.), *Practitioners on Making Accountability Work for the Public*. No. 135. San Francisco, CA: Jossey-Bass.

Barbara Q. Beaudin

Education

Harvard University, Graduate School of Education, Ed. D., 1988
Administration, Planning, and Social Policy Analysis
Dissertation: Former Teachers: A Study of the Characteristics of Teachers Who
Return to the Classroom
University of Hartford, Sixth Year Certificate, 1979, Public School Administration
Central Connecticut State University, M.S., 1972, Mathematics
Central Connecticut State University, B.S., 1969, Mathematics

Certification

Intermediate Administrator Certificate (092)
Mathematics 7-12 (029)

Professional Experience

Connecticut State Department of Education

Associate Commissioner, Division of assessment and Accountability
(September 2007 – present)

Bureau Chief, Bureau of Student Assessment (November, 2003 – present)

Education Consultant, Bureau of Evaluation and Educator Standards
(December 2000 – November 2003)

- Responsibilities: Conducted program evaluations of the Early Reading Success Grant Programs and the interdistrict magnet schools;
- Provided technical assistance to the Charter School, Magnet School, Priority School Units and the Bureau of School Improvement regarding NCLB, accountability and student assessment, resource regarding
- Conducted studies of teacher and administrator supply and demand and school leadership;
- Conducted other research as requested by the commissioner, associate commissioner, and bureau chief.

Contract Consultant, Bureau of Research and Evaluation (1986 – 2000)

- Conducted 15 surveys to monitor the state's public school work force and the quality of schools;
- Prepared 17 Research Bulletins;
- Prepared 8 reports and papers.

University of Hartford (1988 – 2000)

- Associate/Assistant Professor of Mathematics (Discrete Mathematics, Calculus and Statistics);
- Also served as the Mathematics and Science Department Chair and Associate Dean in Hillyer College and Assistant Dean of the College and Arts and Sciences, and on over a dozen University Committee;
- Produced 16 professional papers and publications.

Farmington Public School (1969 – 1985)

Mathematic teacher and high school administrator.

Interests: tennis, golf, the outdoors, and contributing to my community and family

Roger Therrien
Director, Office of Research
Connecticut Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109
860-263-6255
roger.therrien@ct.gov

Director, Office of Research, Connecticut Department Labor, 1992-present – responsible for many of the primary economic statistics, and occupational and career information produced for Connecticut, as well as for many unemployment insurance and employment service management reports for the Department of Labor. In his position, Roger has had a lead role in the development and delivery of labor market information for the workforce development system in Connecticut.

PUBLICATIONS (selected):

- *Higher Education: Building Connecticut's Workforce, 2007* – Joint Report with the Department of Higher Education identifying the employment outcomes of graduates of public higher education
- *Report Card for Employment and Training Programs, 2001-present* – Annual Report of the Connecticut Employment and Training Commission identifying the employment outcomes of participants of employment, education and training programs in Connecticut
- *An Impact Evaluation of Workforce Development Activities, 2005* – Led ETA to require all states to identify the provision of LMI to job seekers as a workforce development system service
- *Connecticut Workforce Demands and the Implications for Education, 2003* – describes the major economic and workforce trends in Connecticut and their effect upon employment over the next decade, specifically focusing on labor shortages
- *Choices Today... A High-Performance Workforce Tomorrow, 1998* – first use of O*Net skills data in labor market information; NASWA labor market information award, 1999
- *Connecticut Career Paths, 1996-present* – provides information on occupations in Connecticut; targeted to students and their teachers, counselors, administrators and parents
- *Connecticut Economic Digest, 1996-present* – the most comprehensive state resource of data specific to Connecticut's economy

PRESENTATIONS (selected):

“Linking Higher Education to the Workforce.” U.S. Department of Labor Employment and Training Administration. Workforce Information Driving Regional Economies Conference. May 2007.

“Identifying College Graduate Success in the Workforce.” State Higher Education Officers (SHEEO) and the National Center for Education Statistics Network Conference. May 2006.

“Connecticut's Legislative Report Card.” Workforce Development Research and Evaluation Conference. Boston, Massachusetts. June 2004

WEBSITES (selected):

Connecticut Job and Career ConneCTion, www.ctjobandcareer.org – a Web-based career exploration tool; NASWA labor market information award, 2001

Connecticut Education and Training ConneCTion, www.cttraining.info – a companion Internet resource containing more than 7,400 education and training programs offered in Connecticut; NASWA labor market information award, 2002

ORGANIZATIONS (selected):

- Connecticut Career Resource Network, Executive Director, 1998-present. The Connecticut Career Resource Network (CCRN) is the primary source of Connecticut-specific career information used by the education community: teachers, guidance counselors, students and their parents, as well as by the workforce investment system. It provides the information needed to help learners make informed decisions about their career choice and preparation.
- Workforce Information Council (2002-present), State Co-chair (2004-2007). The national body of federal and state officials responsible for guiding the development and improvement of workforce information for the nation.
 - Confidential Information Protection and Statistical Efficiency Act (CIPSEA) Workgroup, 2004-05
 - Wage Record Collaboration Team, 2004
 - QCEW Policy Council - Wage Record Workgroup, 2003-04
- Wage Record Interchange System Advisory Committee, 2007-08
- National Association of State Workforce Agencies' (NASWA) Labor Market Information Committee, 1993-present. The collaborative body of state labor market information experts.
- America's Labor Market Information System Database Maintenance Consortium, Database Structure Committee Chair, 1995-present
- Evaluation Coordinating Committee, 2004 (USDOL, ETA)
- Workforce Information Performance Measures Committee, 2004-05 (USDOL, ETA)
- Career Ladder Advisory Committee, 2003-04
- Workforce Education Advisory Committee, 2003-04
- Connecticut Employment and Training Commission Accountability Committee, 2005-present

Nicholas Jolly
Office of Research
Connecticut Department of Labor
200 Folly Brook Blvd.
Wethersfield, CT 06109
860-263-6282
Nicholas.Jolly@ct.gov

Education:

University of Connecticut
Ph.D. Candidate, Economics Expected December 2008
MA, Economics May 2005
Bentley College
BS, Managerial Economics May 2003

Current Position:

Economist May 2007 - present
Connecticut Department of Labor

Responsibilities:

- Analyze and report on trends in the labor market
- Use program evaluation and other statistical techniques to report on outcomes of various labor market programs

Papers:

Jolly, Nicholas. 2007. "Older Workers and Their Earnings after a Mass Layoff." *The Connecticut Economic Digest* 12(12): 1-3, 5.

Kennedy, Daniel W, Patrick McPherron, and Nicholas Jolly. 2005. "A Look at Connecticut's Industry Clusters." *The Connecticut Economic Digest* 10(10): 1-3, 5.

"The Effect of Mass Layoffs on Earnings of Connecticut's Older Workers" with Kenneth A. Couch and Dana W Placzek. October 2007.

"A Look at Connecticut's Older Workers." October 2007.

"Connecticut's Labor Market Dynamics: Job Creation, Destruction, and Reallocation" with Dan Kennedy. August 2006.

"Connecticut's Industry Clusters." July 2005.

Presentations:

Population Association of America Annual Meetings April 2008
"The Effect of Mass Layoffs on Earnings of Connecticut's Older Workers"

Hartford Area Business Economists April 2006
"Job Creation and Destruction: Connecticut's Labor Market Dynamics"

Dana W. Placzek
Office of Research
Connecticut Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109
860-263-6284
dana.placzek@ct.gov

**SOFTWARE
EXPERIENCE:**

Databases: SQL Server, Access, FoxPro, Paradox, MySQL
Statistical packages: SPSS, SAS, S-Plus
Other packages and languages: MS Office, ArcGIS, HTML

EMPLOYMENT:
1999 to present

Research Analyst

Connecticut Department of Labor, Office of Research, Wethersfield, CT

Noteworthy Accomplishments:

- Assembled numerous data sets for statistical analysis, including a study of Employment Services and a study of the effects of displacement on workers, using wage records and other sources of data on workers and employers.
- Collected and summarized the client performance data of education/training providers for performance measurement studies, including the CETC Legislative Report Card. This involved matching wage records with client data to produce employment outcome measures.
- Created data tables for *Choices Today*, an award-winning publication used for planning by the State's regional workforce boards. Data collected included innovative use of skills data from the O*NET system. Updated data for subsequent planning publications.

Ongoing tasks:

- Summarize employment data and job openings in table and graph form for monthly, quarterly and annual publications.
- Summarize regional employment data for presentations at job fairs and conferences.
- Assist with long-term occupational employment projections.
- Create thematic maps showing labor and economic data for the State, by various regions (town, county, LMA, etc.)
- Maintained the America's Labor Market Information System (ALMIS) database for the State of Connecticut.
- Travel around the country to assist in developing and maintaining the structure of a shared database as a member of the ALMIS Database Structure committee.

OTHER TRAINING:

- Geographical Information Systems using Atlas 4.0 and ArcView 8.1
- Long-term Occupational Employment Projections
- Relational Data Modeling using ERA
- Visual Basic and VB.Net

EDUCATION:

Master of Science program in Statistics
UNIVERSITY OF CONNECTICUT (1996 to 1998)

Bachelor of Science in Biology with a minor in Mathematics
CENTRAL CONNECTICUT STATE UNIVERSITY (1993 to 1996)

Academic Awards:

Biology Achievement Award, Mathematics Award, Freshman Chemistry Award, Dean's List –
Fall 1990 through Spring 1994, Fall 1995, Spring 1996

**PROFESSIONAL
ORGANIZATIONS:**

Phi Theta Kappa Honor Society – 1991 to 1993

Liam McGucken
Office of Research
Connecticut Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109
860-263-6313
liam.mcgucken@ct.gov

SUMMARY

Broad background in current software and hardware technology complemented by a degree in Computer Science. Extensive programming experience, with a current focus on database development and client/server application development. Strong project management and mathematical skills.

EDUCATION

Eastern Connecticut State University, Willimantic, Connecticut
Bachelor of Science in Computer and Information Science
Bachelor of Arts in Mathematics

PROFESSIONAL EXPERIENCE

Connecticut Department of Labor, Office of Research, Wethersfield, Connecticut. 1994-1998, Systems Analyst. 2002-present, Senior Systems Analyst.

Responsible for providing the Office of Research a wide range of information technology services including network support, ad hoc and scheduled SQL query development, and client server application development.

Employment Statistics Data Warehouse

Lead the design of a data warehouse to store historical economic and employment information to support analysis and forecasting of the data. The design leveraged relational design methods commonly used in client/server application development, and star schema modeling that better supports the goals of data warehouse applications.

Unemployment Insurance Claimant Profiling System

Developed a neural networking solution to modeling and implementing a system that identifies the likelihood that individuals will exhaust their unemployment benefits. Employment services are targeted to those that need those services most.

Publication Distribution Management System

Developed a mailing list contact management system that automated the distribution of statistical publications through postal and fax delivery systems. The client component was developed using Powerbuilder, and Oracle was used as the database back end.

Employment Statistics Forecasting

Developed a non-interactive statistical forecasting system that used both linear and non-linear forecasting methods. The application was developed in MS FoxPro, and used SQL queries to access the source information.

Focused c.Business, Ilc. Wallingford, Connecticut. 2000-2002. Senior Systems Developer

Responsible for managing the full cycle development and implementation of various consulting engagements. Specific responsibilities included gathering project requirements and customer needs, developing robust systems to fulfill those requirements, ensuring that the customer is delivered product.

Manufacturing Job Management System

Developed a job tracking and management system for a specialty fabrication CAD/CAM machine shop.

The application managed job quotes, material and outside service acquisition, production costs, labor requirements and utilization, and finished product delivery. This multi-user application was developed using Visual Basic 6.0 to build a client interface to a MS SQL Server database.

Web Log Collection and Warehousing System

Developed a large-scale system to collect, cleanse and warehouse the web logs of an international web commerce company. The system manages the daily collection of over four gigabytes of web logs to a central location from over 40 distinct web servers, while ensuring that the web servers themselves are not impacted by the collection activity. The collected web logs are cleansed and condensed, and then stored in a MS SQL Server database for reporting and customer analysis.

New Systems Group, Incorporated. Rocky Hill, Connecticut. 1998-2000. Senior Systems Developer

Responsible for managing the full cycle development and implementation of various consulting engagements. Specific responsibilities included gathering project requirements and customer needs, developing robust systems to fulfill those requirements, ensuring that the customer is delivered product.

Log Watch Monitoring System

Developed application to monitor web site logging activity of a major Internet commerce company. The application was developed in Visual Basic 6.0. It used remote data objects to maintain log testing criteria in a MS SQL Server database. The application made use of many Win32 API calls to provide up to twenty-five system tests (for file existence, applications executing, etc.) and the registry to store database connection information in order to allow the application to start without user supervision. It also made use of MAPI controls to automatically notify appropriate personnel whenever a log file failed to meet its test criteria.

Timetrack Reporting System

Developed system to generate employee timesheet and invoice detail reports. The system was developed using MS Access as a front end to remotely access data in a MS SQL Server database. The application allows users to specify summary levels and filter conditions for reports.

Clinical Initiatives Contact Management System

Developed a contact management system for the grant management division of a major medical school. The system was developed in MS Access and used a centralized Access database to allow multi-user access to the data.

Manufacturing Tracking System

Took over and completed development of a production control management system for a manufacturing firm. The system tracked customer orders, materials for order completion and work scheduling to complete production of the order. The system was developed in MS Access, and used a remote Access database to allow multiple users simultaneous access to the data.

Sarah S. Ellsworth

(b)(6)

sarah.ellsworth@ct.gov

SUMMARY

Nearly ten years of experience managing large databases, leading large data analyses projects, preparing written and oral reports to fulfill state and federal mandates, and providing technical assistance to state and local constituents.

EMPLOYMENT ACCOMPLISHMENTS AND RESPONSIBILITIES

- *No Child Left Behind Act of 2001* - Lead analyst for determining Adequate Yearly Progress (AYP) for Connecticut's schools under No Child Left Behind (NCLB). Produces the No Child Left Behind (NCLB) state, district, and school accountability data reports. Responsible for the design of these reports, and the programming required to produce them. Primary contact person for assisting school district personnel in the interpretation and use of the data. Provides guidance on policy decisions regarding the NCLB accountability system implementation. Conducts presentations about NCLB to school district personnel and Department colleagues. Co-author press release of statewide AYP results.
- *Teacher Shortage Areas* - Analyzes Fall Hiring Survey data to determine teacher shortage areas in response to Federal Loan Deferment Program and State Teachers' Mortgage Assistance Program. Authors the *Fall Hiring Report* for presentation to the State Board of Education. Serves as Department liaison to US Department of Education for Federal programs.
- *English Language Learner (ELL) Data* - Analyzes student-level data from the Public School Information System (PSIS) to determine bilingual program grant eligibility, and to provide required data elements for the Strategic School Profiles. Prepare reports in response to ad-hoc requests from constituents.
- *Data Dissemination Efforts* - Contributes to the creation of the State Longitudinal Data System (SLDS). Participated in development meetings during the RFP writing process, and now with the vendors onsite to design the architecture of the data warehouse and data analytic tools for public use. Assisted with the design of the Department's data dissemination website, CEDaR, and creates tables and reports for display.
- *Presentations and Workshops* - Conducts presentations for state and national conferences, educational organizations, school district personnel, and Department colleagues. Topics range from the NCLB accountability system, data analyses, and appropriate use of data.

Select presentations:

- *Connecticut's Accountability System Under NCLB*, CSDE NCLB Conference, May 2006
- *Using Data to Close the Achievement Gap*, CAS Achievement Gap Conference, January 2005
- *Data Tools Available to Help Close the Achievement Gap*, CABE/CAPSS Annual Convention, November 2002
- *Math and Science Data in Connecticut: Uses and Quality*, 14th Annual NCES MIS Conference, February 2001

- *Maintaining a Safe School Environment: An Examination of the Rate of Student Disciplinary Offenses*, Annual NERA Conference, October 2000
- *Data Collection Management* – Responsible for the collection and subsequent reporting and analyses of data related to several state mandated data collections. Programmed databases to maintain large data sets and produce required reports. Author reports for the State Board of Education and Data Bulletins. Provided technical assistance to school districts to ensure the timely and accurate submission of data.
 - ED-156 Fall Hiring Survey, 1998 to 2003
 - ED-228 Assessment of Dominant Language Survey, 1998 to 2001
 - ED-540 Graduating Class Report, 2001
 - ED-400 Applied Curriculum Education Enrollment and Completion Report, 1999 to 2000
 - ED-161 Biennial Report of Science and Mathematics Enrollment, 1998 to 2000
 - ED-205 Title I Evaluation, 1997
 - ED-159 Nonpublic School Data Report, 1997

EMPLOYMENT HISTORY:

Connecticut State Department of Education

Bureau of Research, Evaluation and Student Assessment

Bureau Chief, July 2007 to present

Education Consultant, July 2005 to July 2007

Associate Education Consultant, July 2003 to July 2005

Education Service Specialist, July 2000 to July 2003

Education Support Technician, July 1999 to July 2000

Connecticut Careers Trainee, July 1998 to July 1999

Graduate Intern, October 1996 to August 1997

Conard High School, West Hartford, CT

High School Social Studies Teacher, January 1998 to June 1998

Manchester High School, Manchester, CT

Substitute Teacher, November 1997 to January 1998

Student Teacher, August 1997 to November 1997

EDUCATION:

University of Connecticut, Storrs, CT.

Ph.D. coursework completed, Educational Psychology; anticipated degree November 2009

- Concentration in research methods, multivariate analyses, and hierarchical modeling

St. Joseph College, West Hartford, CT.

M.A., Education, May 2000

Initial Educator Certificate, Grades 7-12 Social Studies

University of Connecticut, Storrs, CT.

B.A., Anthropology, May 1994

COMPUTER SKILLS:

Microsoft Office: Access, Excel, Word, Powerpoint; SPSS, MapInfo, Visual Basic

**Joanne Weisskopf
Director, Computer Operations**

Summary

Database programmer/analyst with 25 years experience in the design and implementation of computer based solutions for Higher Education Systems. Experience has been in the design and programming of custom relational database management systems.

Professional Accomplishments

Extensive knowledge of Databases and Data management

- Microsoft SQL Server 2000/2005 Administration, SQL Query language
- Microsoft Access and Microsoft Visual Basic
- Knowledge of database backup, disaster recovering, data integrity and data security
- Migration of data between various platforms including the CT's Higher Education Information System (HEIS) which processes and converts data from the public institutions database systems and migrates it into this agency's system

Design and Implement MS Access database systems

- Provide a user-friendly interface for the input, maintenance and reporting of data
- Insure security of data to authorized users only
- Maintain several Student Financial Aid scholarship database systems
- Maintain several Licensure and Accreditation database systems for public, private and private occupational institutions operating in the state of Connecticut
- Maintain the Alternate Route to Certification database system which interfaces with the Web-based SQL system for transmission of data
- Develop the automation of XML files for upload into the State's CORE system for scholarship payments

Develop Web-based systems

- Develop Web interface with Code Charge Studio, HTML and Java Scripting and a database backend using MSSQL
- Create on-line access and data enter capabilities for application processes and various other public data collections
- Enable offsite agency personnel to gain access and maintain information on students record systems

Managerial Skills

- Oversee the departments IT staff
- Administer, maintain, develop and recommend policies and procedures for ensuring the security and integrity of the company's databases
- Prepare technical and administrative documentation
- Ability to multitask and to complete assignments within scheduled timeframes in a team environment
- Excellent troubleshooting, problem analysis, and communication skills

Employment History

Department of Higher Education, Hartford CT	November 1983	Present	Director,
Computer Operations	November 2007	Present	

Abridged Resume

ROBERT J. LUCCO
Connecticut State Department of Education
(860) 713-6875 Office
robert.lucco@ct.gov

Education:

University of Virginia, Ed.D. Research Methodology	1974
University of Wisconsin, M.S. Urban Education	1971
American University, B.A. Sociology	1969

Work Experience:

August 2008 to
Present

Acting Bureau Chief. Bureau of Student Assessment
Responsibilities include:

- Managing bureau staff in order to ensure the accurate and timely development, administration, scoring, analyses and reporting of all statewide student assessments, including CMT, CAPT, alternate assessments based upon alternate or modified academic achievement standards and the Kindergarten Inventory.

July 2007 to
August 2008

Education Manager. Bureau of Data Collection, Research
and Evaluation.

Responsibilities include:

- Managing Data Systems Unit staff and overseeing the following unit activities: 1) the collection, verification and preparation of electronic data files for the Public School Information System (PSIS), the PreK School Information System and the Education Data Exchange Network (EDEN); and 2) the dissemination of student, staff and program data.

December 2004 to
July 2007

Education Manager. Director of Research and Evaluation.

Bureau of Research, Evaluation and Student Assessment. Connecticut State Department of Education.

Responsibilities included:

- Overseeing all annually mandated student and staff data collection activities.
- Overseeing all office data analysis and accountability reporting activities.
- Facilitating interoffice collaboration regarding research and evaluation projects.
- Evaluating all office professional and support staff

1996 to present

Adjunct Professor. Saint Joseph College, West Hartford, Connecticut.

- Responsibilities include teaching Education 515 Educational Research Methods; and Education 524 Instruction and Curriculum at the graduate level.

(b)(6)

Employment

1993 to present **Education Consultant**

State of Connecticut, Department of Education, Hartford, CT

- Conceptualize, architect and write specifications for data collection systems.
- Act as liaison between vendor and end-user, overseeing pilot, beta, and delivery phases of database projects.
- Design front-end and navigational metaphor for databases and web pages.
- Program MS Access databases to track students and programs.
- Oversee Special Education and Adult Education data collection, integrating mainframe and PC tables into MS Access databases.
- Create MS Access reports for Adult Education and Special Education Strategic School Profiles (distributed to the General Assembly, the State Board of Education, local school districts and the general public).
- Act as bureau advisor for Internet and Intranet programming efforts.
- Facilitate workshops for school administrators, teachers, and counselors to provide training in the use of state mandated databases, Microsoft Products and Web Authoring Tools.
- Draft system specifications for Requests for Proposal.

1995 to present **Internet Content Management**

- Work with clients to plan and deploy data collection and marketing initiatives through the use of the Internet.
- Design portal and content management sites for the University of Connecticut.
- Design web sites using HTML, Java Scripting, Macromedia Dreamweaver, Fireworks, and Flash, and Lotus Notes.

1991 to 1993 **Information Systems Manager**

Great Pond Publishing, Rocky Hill CT

- Wrote database application to track \$2 million in inventory at 27 locations throughout the U.S.
- Purchased, installed and networked 50 PCs and Macintosh computers.
- Directed and designed of a variety of multimedia products for sales staff.
- Evaluated & recommended PC Desktop Publishing platform for the company.

1986 to 1991 **Wholesale Audit Manager (Bank Officer)**

Bank of New England (Now Fleet Bank), East Hartford, CT

- Managed Wholesale Lending Audit Department supervising 3 field managers and 16 auditors.
- Responsible for the audit and reporting of a \$400 million asset based loan portfolio overseeing 82 relationships throughout the northeast.
- Developed and maintained databases using Dataease and DB2 which generated inventory exposure and leasing depreciation reports.

Professional Profile

- Offering strong creative abilities, technological skills with a thorough knowledge of database management, multimedia, Internet and PC computer operations.
- Self-motivated, goal-oriented, highly organized team player with the ability to work under pressure, meet tight deadlines and handle multiple projects simultaneously.
- Always willing to put forth the effort required to achieve superior results.
- Possessing excellent interpersonal and written communication skills, with the ability to relate well at all levels.

Military Experience

- 1981-1985 United States Air Force
- Inventory Systems/PCAM Specialist
- Honorable Discharge

Education

- San Antonio College, San Antonio, Texas
- Central Connecticut State University, New Britain, Connecticut
- Lake Erie College, Painesville, Ohio

OS and Application Experience

Intermediate or expert knowledge of the following:

Database Applications

Microsoft Access and Visual Basic
 Microsoft .Net
 Lotus Notes/Domino
 FileMaker Pro Relational
 Lotus Approach
 Visual Fox Pro
 ACI 4th Dimension

Business Software

Microsoft Excel, Word, Powerpoint
 Microsoft Outlook
 Corda Pop Chart
 SPSS
 Lotus 123

Web Development Tools

HTML Programming (tables, frames, java script)
 Macromedia Studio MX
 Macromedia Flash
 Lotus Notes
 FTP Software

Graphics & Multimedia Tools

Adobe Photoshop 5.0
 Quark Xpress
 PageMaker
 Caere Twain and OCR Software

Kevin Graham

(b)(6)

A dedicated software developer with over 15 years of experience in the development of financial and data collection applications. Experience in every aspect of software development with a focus on object oriented design. Works well independently and on teams. Enjoys the challenge of working with the business to gather requirements, design and develop new applications, migrate existing applications to new architecture and integrate existing applications. Maintains skill set by attending annual developer conferences and reading industry magazines.

Languages: VB.Net, ASP.Net, Visual Basic 4-6, HTML, DHTML, ASP, VBScript, SQL
Technologies: Microsoft .Net Framework, XML, Web Services, MTS/Com + Services, COM/DCOM, ADO, Crystal Reports, ODBC
Tools: Visual Studio.Net, Visual Studio, Visual Interdev, Visual Sour Safe, Crystal Reports Write, SQL Reports, Enterprise Manager
Servers: IIS, MTS, MS SQL Server, Access

Experience

1999-Present

CT Department of Education Technical Analyst/Developer

- Analyzed current applications and recommended the best migration to new technology.
- Installed, administered and secured 3 Windows 2000 servers with Internet Information Server.
- Installed and administered 3 SQL Server 2000 databases.
- Worked independently, and then trained new staff members on technologies.
- Created web applications for school districts to log onto and enter data for State and Federal reporting.

1998-1999

KISSystems Software Developer

- PC Based 3-tier client/server student financial aid management system written in Visual Basic using object oriented design.
- Assisted in design, development, testing and deployment of software.

1989-1998

CT Department of Administrative Services Systems Developer

- Lead developer on State of Connecticut's phone billing system written in VAX basic.
- Worked with telecom vendors in developing billing formats.
- Assisted in the development of CASE management tools.

Education

1987-1989

Hartford State Technical College

Graduated with 3.8 GPA

Earned A.S. in Information Management

Appendix C - Timelines

7. Timelines

Project I - Enhancement of Statewide Longitudinal Capabilities to Include Teacher and Course Information

- 1) Establish a statewide course code taxonomy using NCES course code standards and develop an intermediary application for course mapping**

Project Component Deliverable	Days	Start/Finish
Create Business and Functional Requirements Document	130	08/09 02/10
Application Development	286	03/10 02/11
User Acceptance Testing	130	03/11 08/11
Application Deployment/Training	130	10/11 03/12

- 2) Develop a vertical SIF component to promote interoperability between the SEA and LEAs**

Project Component Deliverable	Days	Start/Finish
Create Business and Functional Requirements Document	35	09/09 11/09
Data Model Development Agent Creation and Integration	105	12/09 03/10
User Acceptance Testing/Data Cleansing & Validation	45	04/10 06/10
Application Deployment/Training	62	07/10 09/10

Appendix C - Timelines

3) Creation of a student-schedule-staff module and data mart to store course taking and staff data

Project Component Deliverable	Days	Start/Finish
Create Business and Functional Requirements Document for student-schedule-staff Module	128	08/09 02/10
Create Business and Functional Requirements Document for Data Mart	62	06/10 08/10
Student-schedule-staff Module Application Development: <i>Use Case Creation</i> <i>Data Modeling</i> <i>Prototype Design</i> <i>Portal Integration</i> <i>Version 1 Code Delivery</i>	338	03/10 04/11
Data Mart Development: <i>Data Modeling</i> <i>Data Cleansing and Validation</i> <i>Version 1 Code Delivery</i>	210	10/10 5/11
Student-schedule-staff Module User Acceptance Testing	113	05/11 08/11
Data Mart User Acceptance Testing	93	06/11 08/11
Application Deployment/Training	156	09/11 02/12

4) Enhancement of Secure and Public dissemination of student data for Decision Support

Project Component Deliverable	Days	Start/Finish
Create Business and Functional Requirements Document for Decision Support Dissemination Enhancements	28	12/10 2/11
Development of Secure and Public Dissemination Enhancements <i>Use Case Creation</i> <i>Data Modeling</i> <i>Data Validation</i> <i>Prototype Design</i> <i>Portal Integration</i>	128	3/11 8/11
User Acceptance Testing	36	9/11 11/11
Training/Deployment	19	12/11 1/12

Appendix C - Timelines

Project II - Interoperability with Connecticut's Department of Higher Education and Department of Labor

Objective 1: Establishment of on-going Interoperability System Council

Project Component Deliverable	Days	Start/Finish
Development of Interoperability Council communication portal	15	10/09 06/11

Objective 2: Identification and adoption of core set of data elements

Project Component Deliverable	Days	Start/Finish
Assessment and identification of core data elements and data definitions	187.5	10/09 1/11
Data dictionary development	150	3/10 5/11
Documentation of Next Steps Database	45	10/09 1/10
Examination of two other state's interoperability models	15	12/09 - 4/11

Objective 3: Development of a model for a secure data environment for data exchange and student record matching

Project Component Deliverable	Days	Start/Finish
Development of extraction, transformation and load facility	187.5	11/09 9/10
Pilot data exchange and collection	100	11/10 6/11
Refine data collection and exchange process	106.25	10/11 7/12
Process maintenance	12.5	10/11 9/12

Objective 4: Development and adoption of a privacy protection policy, data exchange agreements, and confidentiality protocols

Project Component Deliverable	Days	Start/Finish
Development of privacy protection plan	75	10/09 5/12

Appendix C - Timelines

Objective 5: Development of a data auditing models to ensure data quality, validity and reliability

Project Component Deliverable	Days	Start/Finish
Development of data auditing model	125	6/10 2/12

Objective 6: Increase support among state policy leaders and other stakeholders by demonstration the usability and sustainability of longitudinal student data systems

Project Component Deliverable	Days	Start/Finish
Data mining, research, policy report development	187.5	10/09 5/11
Dart Mart Development	93.75	1/10 8/12

Objective 7: Exploration of feasibility of including data from independent institutions of higher education and out-of-state institutions.

Project Component Deliverable	Days	Start/Finish
Subscriptions to national databases	NA	10/09 9/12

Budget Narrative

Budget Narrative

Attachment 1:

Title: Pages: Uploaded File: 1235-budget justification.doc

8. Budget Justification

Project I . Enhancement of Statewide Longitudinal Capabilities to Include Teacher and Course Information

Grant funds are requested to enhance the current statewide longitudinal capabilities to include a student-schedule-staff module. This module will effectively track course-taking patterns for monitoring and evaluation purposes, and to more effectively determine highly qualified teacher status for NCLB. Connecticut will seek to achieve the following objectives:

1. Establish a statewide course code taxonomy using NCES course code standards;
2. Develop a vertical SIF component to facilitate the data transfer process between the SEA and LEA's student information systems;
3. Create a student-schedule-staff module and data mart that contains student demographic and assessment results data, course type, and associated teacher data such as age, years of experience, degree held, certification type, and teacher preparation program attended; and
4. Enhancement of secure data dissemination for SEA and LEA decision support.

Objective 1: Establish a statewide course code taxonomy using NCES course code standards and develop an intermediary application for course mapping

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Create Business and Functional Requirements Document	1	995	124	\$ 84,575
Application Development: <i>Use Case Creation</i> <i>Data Modeling</i> <i>Prototype Design</i> <i>Portal Integration</i> <i>Version 1 Code Delivery</i>	2	2205	1874	187,425
User Acceptance Testing, Data Cleansing and Validation	2	1525	191	129,625
Application Deployment/Training	3	1100	137	93,500
Project Component Total:		5825	15	\$ 495,125

Connecticut will convene a committee of LEA stakeholders to determine the scope of variability among course names and descriptors. Among the 25 LEAs represented in the SLDS Advisory Committee exists an array of Student Information Systems. Each of the major systems will be reviewed and documented by work-flow to better create an extensible intermediary application.

The intermediary application will be created to ingest LEA courses and cross-reference them to a standard state [NCES] taxonomy. LEAs therefore will not need to adopt the course taxonomy within their own student information systems (SIS). Each LEA will however, be required to map new courses in the intermediary application prior to data collections.

The specifications for the deliverables will be specified in a Business and Functional Requirements document (FRD). The documents will be drafted with input from SEA technical and business analysts, and data stewards. The documentation process will also include members of the LEA Advisory Committee.

The FRD will define the application step-by-step, and include workflow, data model and user interface design documentation.

The FRD will also include the documentation of use cases for each goal and/or task of the application. Each use case focuses on describing how the application will achieve a specific goal or task. For this application several hundred use cases will be required to define the scope of the application and provide the developers the insight the need to take each workflow from code to a functional process. Each use case will represent interactions between external actors and the application in order to accomplish a goal. Each actor is defined by a role when interacting with the application. The same person may use the application yet be represented as two different actors because they are assuming two different application roles.

Objective 2: Develop a vertical SIF component to promote interoperability between the SEA and LEAs

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Create Business and Functional Requirements Document	1	302	37.75	\$ 25,670
Data Model Development Agent Creation and Integration	2	1952	244	165,920
User Acceptance Testing	2	362	45.25	30,770
Application Deployment/Training	3	502	62.75	42,670
Project Component Total:		3118	389.75	\$ 265,030

Connecticut will work in partnership with districts using the Powerschool[®] SIS to:

1. Create a Functional Requirements Document (FRD) for the Zone Integration Server (ZIS) installation and configuration, as well as the Powerschool[®] agent creation and/or integration;
2. Specify a data model for course-taking and completion information; and
3. Work with pilot districts to install and configure a ZIS within their application hosting environment.

The specifications for the deliverables will be specified in a Business and Functional Requirements document. The documents will be drafted with input from SEA technical and business analysts, and data stewards. The documentation process will also include members of the LEA Advisory Committee.

Objective 3: Creation of a student-schedule-staff module and data mart to store course taking and staff data

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Create Business and Functional Requirements Document for student-schedule-staff Module	1	1023	128	\$ 86,955
Create Business and Functional Requirements Document for Data Mart	1	495	62	42,075
Student-schedule-staff Module Application Development: <i>Use Case Creation</i> <i>Data Modeling</i> <i>Prototype Design</i> <i>Portal Integration</i> <i>Version 1 Code Delivery</i>	2	3962	495	336,770
Data Mart Development: <i>Data Modeling</i> <i>Data Cleansing and Validation</i> <i>Version 1 Code Delivery</i>	2	2920	365	248,200
User Acceptance Testing	2	900	113	76,500
User Acceptance Testing	3	750	93	63,750
Application Deployment/Training	3	1953	244	166,005
Project Component Total:				\$ 1,020,255

The current CSDE Public School Information System (PSIS) will require modifications to the current student Register/Unregister process and collection process to include the collection of schedule and teacher data.

1. The enhancements to PSIS will:

- a) Leverage PSIS collection data and roster data to provide an authoritative active roster of Connecticut Public School Students for data collection and dissemination;
- b) Allow the LEA to maintain their respective local student information systems (SIS) and input or upload CSDE collection data through a web-based facing application or a Schools Interoperability Framework (SIF)-type automated process;
- c) Provide for the tracking of course enrollments at the student level;
- d) Provide for the tracking of course completion (results) at the student level;
- e) Provide for the tracking of the teachers for each course;
- f) Provide for tracking the mobility of students from school to school and district to district within the state (i.e., both inter- and intra-district transfers);

- g) Provide the ability to longitudinally track a student's educational record, to include course taking habits;
 - h) Provide improved education decision-making and instruction through the use of personalized, flexible, easy-to-use web-based tools; and
 - i) Compliance with state and federal laws that protect the confidentiality of student and staff information.
2. The enhancement of the SLDS to include a persistent data mart for schedule and teacher data will include:

a) Data Mart Schema – The schema will:

- i. be developed and documented in an industry standard case tool and rely on Joint Application Development (JAD) strategies to facilitate participation among the stakeholders in the enterprise;
- ii. identify the requisite objects and elements and document their relation and inter-dependency to the data storage, domain object, presentation and persistent layers; and
- iii. be presented in both a traditional schema metaphor for each relational layer and a star or consolidated dimensional hierarchy for the persistent layers.

b) Data Mart Specification – The specification will:

- i. define the business and functional requirements of each layer documented in the data schema and the data dictionary;
- ii. outline the technical processes for data extraction, staging, data verification, cleansing, consolidation and delivery; and
- iii. address the policies and procedures governing each of the objects/elements defined in the schema.

c) The Deployment of an Enterprise -wide Persistent Data Facility

Using the layers outlined in the Data Management Schema and Specification, build a pilot persistent data facility. The pilot will adopt the “lessons learned/proof of concept” approach and validate the schema and specification while mitigating the risks associated with full deployment. It will also serve as a way to build credibility and support for the data warehouse initiative. The pilot will be a short-term 60 to 90 day project and will include the following:

- i. the deployment of a scaled-down version of the data warehouse architecture in a single technical environment;

- ii. the utilization of standard data warehouse tools;
- iii. a multi-tier infrastructure for each layer;
- iv. the implementation of a scaled-down data acquisition plan from two sources; and
- v. the implementation of a scaled-down data delivery plan from an object considered value-added or of high priority.

d) The Deployment of an On-going Operation and Maintenance Strategy

- i. outline the short and long term data management objectives of the enterprise, the strategic plan to attain those objectives, the obstacles that may impede the attainment of the objectives and performance indicators to measure performance to the objectives;
- ii. document a strategy for future planning, forecasting and budgeting for the warehouse and the on-going management of each layer in the enterprise with particular emphasis on data integration and integrity;
- iii. document the support processes required to maximize the reliability of the infrastructure as well as a process for future planning, forecasting and budgeting for the warehouse; and
- iv. document the training processes required to ensure that stakeholders are able to leverage the investment in the data warehouse to its fullest extent.

The specifications for the deliverables will be specified in a Business and Functional Requirements document. The documents will be drafted with input from SEA technical and business analysts, and data stewards. The documentation process will also include members of the LEA Advisory Committee.

The FRD will define the application step-by-step, and include workflow, data model and user interface design documentation.

The FRD will also include the documentation of use cases for each goal and/or task of the application. Each use case focuses on describing how the application will achieve a specific goal or task. For this application several hundred use cases will be required to define the scope of the application and provide the developers the insight the need to take each workflow from code to a functional process. Each use case will represent interactions between external actors and the application in order to accomplish a goal. Each actor is defined by a role when interacting with the application. The same person may use the application yet be represented as two different actors because they are assuming two different application roles.

Objective 4: Enhancement of Secure and Public dissemination of student data for Decision Support

	Project Year	Hours	8 Hour Days	Projected Costs
Create Business and Functional Requirements Document for Decision Support Dissemination Enhancements	1	226	28	\$ 19,210
Development of Secure and Public Dissemination Enhancements <i>Use Case Creation</i> <i>Data Modeling</i> <i>Data Validation</i> <i>Prototype Design</i> <i>Portal Integration</i>	2	1396	175	118,660
User Acceptance Testing	3	285	36	24,225
Training/Deployment	3	155	19	13,175
<i>Project Component Total:</i>		2062	258	\$ 175,270

The decision support component will include functionality to facilitate CSDE and LEA leaders, principals, and teachers, to control, query and summarize information in a secure, intuitive and user-friendly manner. The component will additionally include the ability to provide in-depth analysis of student performance on state standardized tests, course participation/completion, locally administered low-stakes tests and aggregate (historical) facility and district information. Low-stakes results and their respective meta-data will be specific to each LEA. The data will be drilled and/or exported vertically and multi-dimensionally to view and report on data at many different levels. The decision support component will provide functionality that allows the user to select various output options such as charts, graphs, maps, extracts and exports (.xls, .csv, .xml, etc.).

The dissemination enhancements will address the following decision support components

1. The enhancement of the portal for school organizations
2. Analyze student demographic characteristics (i.e., racial composition, poverty, English Language Learner status) as they relate to course participation/completion
3. Analyze student achievement data by and across grade level(s) and course participation/completion with a high performance/low performance dimension
4. Analyze program course participation/completion and enrollment trends
5. Analyze student achievement data by grade, class and school levels to identify cohorts for intervention
6. Report on and view historical trends related to achievement

7. Disaggregate and aggregate assessment and course participation/completion data by subpopulation groups
8. Disaggregate and aggregate assessment data by program participation and course participation/completion to identify program effectiveness
9. Disaggregate and aggregate assessment data and course participation/completion across subpopulation groups and programs
10. Identify students falling below achievement levels by content area, reporting categories and course participation/completion data
11. Identify strengths and weaknesses among subpopulations, schools, grades, classes, etc. in each of the content areas and reporting categories
12. Compare district, school and/or student performance over time reported by course participation/completion and demographic characteristics of students for the purpose of reporting on trends among subgroups
13. Disaggregate and aggregate data by enrollment, attendance, dropouts, graduates and course participation/completion to report on the population of a district or facility
14. Compare achievement among schools and districts with similar characteristics
15. Comply with FERPA reporting requirements and suppress cells in aggregate dissemination to ensure that students are not personally identifiable

Each LEA, as well as members of the public, will be granted access to the crosswalk of LEA-defined course names to the standardized state course taxonomy. Users will be able to see LEA-to-LEA mappings of specific courses. This will allow for the following outcomes:

1. The ability for the public to compare the depth and breadth of courses offered by different LEAs;
2. Transcripts of transferring students will acquire better meaning;
3. Better understanding of the educational experience of students transferring between LEAs; and
4. Placement of transferring students into more appropriate classes based on prior course-taking habits.

Project II. Interoperability with Connecticut's Department of Higher Education and Department of Labor

Objective 1: Establishment of on-going Interoperability System Council

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Development of Interoperability Council communication portal	1	120	15	\$ 12,000
Meeting Expenses	1			500
Meeting Expenses	2			500
Meeting Expenses	3			500
<i>Year One Total:</i>		120	15	12,500
<i>Year Two Total:</i>				500
<i>Year Three Total</i>				500
<i>Project Component Total:</i>		120	15	\$ 13,500

Grant funds are requested for the development and maintenance of a communications portal for Interoperability System Council purposes. This portal will provide Council members with a place for online collaboration and relevant document storage, including discussion forums, and will limit the need for face to face meetings. The Council is expected to meet at least four times a year; in-state travel expenses will be supported by state and/or institutional funds; grant funds are requested to defray other meeting expenses.

Objective 2: Identification and adoption of core set of data elements

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Assessment and identification of core data elements and data definitions	1 and 2	1500	187.5	\$ 82,556
Data dictionary development	1 and 2	1200	150	116,045
Documentation of Next Steps Database	1	360	45	19,814
Examination of two other state's interoperability models	1	120	15	52,605
<i>Year One Total:</i>		1809	226.1	181,583
<i>Year Two Total:</i>		1371	171.4	89,436
<i>Year Three Total</i>				
<i>Project Component Total:</i>		3180	397.5	\$ 271,019

Grant funds are requested to identify and define the core set of data elements for interoperability research and evaluation purposes. This will include an assessment of the usability of existing data dictionaries in place for various collection activities among K-12, higher education and labor. An on-line, easily accessible and searchable data dictionary will be produced. It will provide comprehensive documentation of the data to be exchanged and stored. It will include at least two sections including a data source registry and a data element registry. Funds also will be used to complete a full documentation of the Next Steps database, including student matching protocols and algorithms used to develop that database. Connecticut also will conduct an examination of at least two other state's interoperability models to determine whether those models or components of those models would be adaptable here. An RFP for consulting services will be issue earlier in the first year of the grant. A final report with recommendations will be delivered before the end of the first grant year. Funds will be used for staff support, consulting services, software acquisition, and travel.

Objective 3: Development of a model for a secure data environment for data exchange and student record matching

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Development of extraction, transformation and load facility	1	1500	187.5	142,556
Pilot data exchange and collection	2	800	100	94,030
Refine data collection and exchange process	3	850	106.25	46,782
Process maintenance	3	100	12.5	5,504
<i>Year One Total:</i>		1500	187.5	142,556
<i>Year Two Total:</i>		800	100	94,030
<i>Year Three Total</i>		950	118.75	52,286
<i>Project Component Total:</i>		3250	406.25	\$288,872

Grant funds are requested to develop and implement a model for a secure data environment for data exchange, transformation and loading (ETL). It will specify data export and delivery protocols, including standardization procedures for data coming from various agencies; design a model data storage structure; develop transformation and loading schemas for each agency/constituent unit; develop a secure location for extracted data, and establish specific procedures for stripping personally identifiable data from records after data matching. Microsoft SQL Server or other similar database engine will provide database services to the project. The ETL facility provided with this engine used to store the data will be used to run the transformation and load schemas. An FTP server operated by the agency housing the database will be needed to facilitate data collection. Higher education units currently use a process to deliver data annually for Connecticut's Legislative report card. A similar process will be expanded to deliver data for interoperability purposes. Research, analysis and reporting tasks will require the creation of an isolated workstation(s) at the location of the database server storing the unified student records. In addition, a means of moving large data sets to the work station such as an external hard drive or a large USB mass storage device will be required. Based upon past experience with similar, albeit smaller data exchanges, storage requirements could grow to as much as 20MB per year of records. Connecticut also will undertake a pilot data exchange and student matching project. Grant funds are requested for staff support, institutional support, and computer equipment and software costs.

Objective 4: Development and adoption of a privacy protection policy, data exchange agreements, and confidentiality protocols

	Project Year	Hours	8 Hour Days	Projected Costs
Development of privacy protection plan	1,2,3	600	75	33,023
<i>Year One Total:</i>		300	37.5	16,511
<i>Year Two Total:</i>		150	18.75	8,256
<i>Year Three Total</i>		150	18.75	8,256
<i>Project Component Total:</i>		600	75	\$ 33,023

Grant funds are requested for staff support to assist with Interoperability System Council with development of a privacy protection policy for interoperability activities. This will include examination and revision of existing data sharing and confidentiality agreements which govern access to and use of data by participating agencies, employees and other individuals. Policy and standard confidentiality documents will be developed and activated.

Objective 5: Development of a data auditing models to ensure data quality, validity and reliability

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Development of data auditing model	1 -3	1000	125	65,038
<i>Year One Total:</i>		300	37.5	26,511
<i>Year Two Total:</i>		500	62.5	27,519
<i>Year Three Total</i>		200	25	11,008
<i>Project Component Total:</i>		1000	125	\$ 65,038

Grant funds will be used to develop clear and unambiguous reporting rules which will be made available through written materials accessible through the data dictionary and through staff training. A data audit system will be designed and put in place to ensure data accuracy and timeliness. Funds are requested for initial staff support, consulting services, written materials and staff training.

Objective 6: Increase support among state policy leaders and other stakeholders by demonstration the usability and sustainability of longitudinal student data systems

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Data mining, research, policy report development	1 and 2	1500	187.5	92,556
Dart Mart Development	2 and 3	750	93.75	91,278
<i>Year One Total:</i>		750	93.75	46,278
<i>Year Two Total:</i>		1125	140.625	91,917
<i>Year Three Total</i>		375	46.875	45,639
<i>Project Component Total:</i>		2250	281.25	\$ 183,834

Grant funds are requested for research staff support to perform further data mining and analysis of the Next Steps database. These activities will take place in the secure data workstations developed under Objective 4. A minimum of two research/policy reports will be produced for distribution among Connecticut stakeholders. The first analysis will focus on the extent of the need for developmental coursework among Connecticut's 10th grade cohorts who took the 10th grade CAPT exam, and results of their participation in developmental remedial coursework in terms of student persistence and degree completion. In addition to written reports, study results will be made available through an on-line data mart accessible through participating agencies websites. Connecticut also will develop and deliver a high school feedback report focused on progress and success of high school graduates into college and on into the workforce. Grant funds are requested for research staff support, analytically software and data mart development.

Objective 7: Exploration of feasibility of including data from independent institutions of higher education and out-of-state institutions.

Project Component Deliverable	Project Year	Hours	8 Hour Days	Projected Costs
Subscriptions to national databases	1,2,3	NA	NA	120,000
<i>Year One Total:</i>				40,000
<i>Year Two Total:</i>				40,000
<i>Year Three Total</i>				40,000
<i>Project Component Total:</i>				\$120,000

In its exploration of the feasibility of included student record data exchange with independent institutions of higher education and out-of-state institutions, Connecticut will document the strengths and limitations of using national databases such as the National Student Clearinghouse (NSC) and College Board for longitudinal tracking purposes. Grant funds are requested for a three year subscription to NSC.