R372 A 120039

Application for Federal Assistance SF-424

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

* 3. Date Received:	4. Applicant Identifier:
12/15/2011	

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

State Use Only:

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

8. APPLICANT INFORMATION:

* a. Legal Name: Delaware Department of Education

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
516000279	8788921240000

d. Address:

* Street1:	401 Federal Street Suite 2
Street2:	Townsend Building
* City:	Dover
County/Parish:	Kent
* State:	DE: Delaware
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	19901-3639

e. Organizational Unit:

Department Name:	Division Name:

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

Prefix:	Mr.	* First Name:	Robert
Middle Name:			
* Last Name:	Czeizinger		
Suffix:			

Title: Director

Organizational Affiliation:

* Telephone Number:	3027354140	Fax Number:	3027394140

* Email: rceizinger@doe.k12.de.us

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.372

CFDA Title:

Statewide Data Systems

* 12. Funding Opportunity Number:

ED-GRANTS-092011-001

* Title:

Institute of Education Sciences (IES): Statewide, Longitudinal Data Systems Program CFDA Number 84.372A

13. Competition Identification Number:

84-372A2012

Title:

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

[Add Attachment] [Delete Attachment] [View Attachment]

* 15. Descriptive Title of Applicant's Project:

Expanding Delaware's Insight Data Warehouse Reporting and Instructional Improvement Capabilities (Insight Plus)

Attach supporting documents as specified in agency instructions.

[Add Attachments] [Delete Attachments] [View Attachments]

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant `DE`
b. Program/Project `DE`

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

[   ] [Add Attachment] [Delete Attachment] [View Attachment]

17. Proposed Project:

* a. Start Date: `03/01/2012`
* b. End Date: `03/01/2015`

18. Estimated Funding ($):

* a. Federal	4,628,250.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	4,628,250.00

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

[X] a. This application was made available to the State under the Executive Order 12372 Process for review on `12/12/2011` .

[ ] 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 in attachment.)

[ ] Yes   [X] No

If "Yes", provide explanation and attach

[   ] [Add Attachment] [Delete Attachment] [View Attachment]

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

[X] ** I AGREE

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

Authorized Representative:

Prefix: `Dr.`	* First Name: `Lillian`
Middle Name:	
* Last Name: `Lowery`	
Suffix:	

* Title: `Secretary of Education`

* Telephone Number: `3027354000`   Fax Number: `(302)739-7668`

* Email: `LLOWERY@DOE.K12.DE.US`

* Signature of Authorized Representative: `Kimberly Rodriguez`   * Date Signed: `12/15/2011`

Application: R372A120039

**SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS**

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Mr.	Robert		Ceizinger	

Address:

* Street1: 401 Federal Street

Street2: Suite 2

* City: Dover

County: Kent

* State: DE: Delaware

* Zip Code: 19901

* Country: USA: UNITED STATES

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

3027354140   3027394221

Email Address:

rceizinger@doe.k12.de.us

2. Applicant Experience:

Novice Applicant   ☐ Yes   ☐ No   ☒ Not applicable to this program

3. Human Subjects Research

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

☐ Yes   ☒ No

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

☐ Yes   Provide Exemption(s) #:

☐ No   Provide Assurance #, if available:

Please attach an explanation Narrative:

| | Add Attachment | Delete Attachment | View Attachment |

Application: R372A120039

PROJECT ABSTRACT

Title: Expanding Delaware's Insight Data Warehouse Reporting and Instructional Improvement Capabilities (Insight Plus)

Priority Area: K-12 System Data

Organization: DDOE in collaboration with all Delaware LEAs and Charter Schools.

Description: This project will leverage work completed by the DDOE under Race to the Top by addressing data gaps and providing support to enable all users to effectively and easily use educational information for data driven management. The DDOE will complete a significant phase in its construction of a P-20 longitudinal data system to support Delaware schools mid-2012. That is when the Insight Data Warehouse and the Insight Dashboard projects will deliver a functional system for decision support. While this is a milestone for functionality, the system will require substantial new resources to meet the requirements of a fully functioning and sustainable longitudinal data system. The success DDOE has demonstrated in designing and implementing the Warehouse and Dashboard has positioned us now to engage the next phase—achieving a significant reliance upon the K-12 SLDS for decision making, reporting, and research such that legacy systems and processes can be retired. This initiative has the support and endorsement of all school district superintendents in Delaware.

Expected Deliverables: Three project deliverables are key in this next phase. DDOE must respond to the needs of teachers and schools to add content to the Insight Dashboard's analytic and reporting capabilities. The top of the user priority list is local assessment scores that can be linked to the other data already in the Data Warehouse tables. This first project will assist teachers to build their local assessments, present them on-line to their students, score them, and analyze the results for interpretation within the context of their own curriculum.

The second deliverable is to train and support all users of the Insight Data Warehouse and Dashboard to improve and maintain data quality as well as to ensure proper interpretation and use of the data and reports from the Insight Dashboard. In addition to direct raining activities, this project will create an on-going resource of materials for training and support.

The third deliverable is to complete the migration of legacy repositories and reports to the Insight Data Warehouse. Only 33 source repositories and a few of their standard reports were initially included in the funding for building of the data warehouse. There remain all the other legacy repositories that the schools, districts, and DDOE staff manage. This project will reduce staff burden while eliminating the opportunity for redundancy with the data warehouse.

The technology initiative begun by the Insight Data Warehouse and Dashboard to improve data quality and increased data for decision-making will lose momentum without a new funding source. The initiative logically continues its momentum with these three projects, adding content, training users, and migrating the remaining legacy repositories.

6. Project Narrative

The DDOE will complete a significant phase in its construction of its P-20 Statewide Longitudinal Data System (SLDS) to support Delaware schools mid-2012 when the Insight Data Warehouse and the Insight Dashboard projects will deliver a functional system for decision support. This is a comprehensive and integrated warehouse supporting a series of performance management dashboards that have been constructed using the EdFi standard (www.ed-fi.org). This is a significant milestone in terms of functionality. However, at this time, DDOE will require $5 million over three years in funding to complete a fully functioning and sustainable longitudinal data system. The technology initiative that launched the Warehouse and Dashboard was envisioned by the P-20 Council and described in Delaware's Race to the Top application. The success DDOE has demonstrated in designing and implementing the Warehouse and Dashboard has positioned us now to engage the next phase—creating a significant reliance upon the P-20 SLDS for decision making, reporting, and research such that legacy systems and processes can be retired. This initiative has the support and endorsement of all school district superintendents in Delaware (See Appendix).

Three key projects are proposed in this next phase. DDOE must respond to the needs of teachers and schools to add content to the Insight Dashboard's analytic and reporting capabilities. The area at the top of their priority list is local assessment scores that can be linked to the other data already in the Data Warehouse tables. This first project, Local Assessment Builder (LAB), will assist teachers to build their local assessments, present them on-line to their students, score them, and analyze the results for interpretation within the context of their own curriculum.

The second project, Delaware Data-Driven Analysis Program (3DAP), will train and support all users of the P-20 SLDS to improve and maintain data quality, and to ensure proper interpretation and use of the data and reports from the Insight Dashboard. In addition to direct training activities, this project will create an on-going resource of materials for training and support.

The third project, Legacy Migration (LM), will complete the migration of legacy repositories and reports into the Insight Data Warehouse. While 33 source repositories and a few of their standard reports were initially included in the funding of the contract for the building of the Data Warehouse there remain other legacy repositories (such as those supporting EDFacts and other federal reporting) that the schools, districts, and DDOE staff continue to fill and use to manage reports. This project will reduce burden while eliminating the opportunity for duplication within the Data Warehouse.

Thus, the technology initiative begun by the Insight Data Warehouse and Dashboard with their momentum toward improved data quality and increased data for decision-making will fall back to a slow pace mid-2012 without a new, significant funding source.

The initiative logically continues its momentum with these three projects by adding content, training users, and migrating the remaining legacy repositories.

On November 16, 2011, consultants from ESP Solutions, Group, Inc. (ESP) met with staff from Delaware Department of Education (DDOE) to explore possibilities, review best practices from across the states, describe the current status of systems within Delaware, and determine a direction to follow in designing programs that leverage the information system assets within Delaware. ESP is the prime contractor for the Insight Data Warehouse. Multiple alternatives were discussed including how to involve higher education, workforce agencies, health agencies, human services agencies, early childhood agencies, and others that potentially could improve the exchange of data for the benefit of students. For this effort, the decision was made to focus on K-12 education in order to take full advantage of the Insight Data Warehouse and the Insight Dashboard's capacities, and to acknowledge that the Department does not have the resources to do so on its own.

DDOE staff discussed a number of needs that have been identified in the recent months. From these, three were determined to be the highest priority and to be the highest potential for return on investment.

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1. Delaware Local Assessment Builder (LAB)

   The Delaware LAB Project is envisioned to create the capacity for Delaware schools and teachers to manage their own local assessments using both a national content library and local items. Teachers will also be able to both scan their paper tests and have their students take them online. Schools and districts will manage assessment data mapped to their curriculum and their benchmark assessments. With the capacity to upload these data to the Insight Data Warehouse, the users will be able to link to all the data there. For example, teacher data in the Insight Data Warehouse includes performance ratings, certification status, and highly qualified teacher status. For students, the data include elements such as statewide assessment scores, attendance, grades, and discipline. The Insight Dashboard and its reporting tools will then be available for analysis and reporting.

2. Delaware Data-Driven Analysis Program (3DAP)

   The 3DAP is envisioned to provide the users of the Insight Dashboard and Warehouse the analytical tools, training, and support required to understand the data and make full and proper use of them. Users of all roles will be personally trained and have printed and on-line guidance materials available to them.

   Data quality is significant because preventing poor data from ever entering the Insight

Data Warehouse saves resources from being used to edit and clean the data later. Training the data providers either at the school and district levels or in the program offices will be conducted. Improving the documentation they are provided will also be a priority.

As the quantity and complexity of the available data increases, and especially as the number of years of data grows, the challenges for users increase. DDOE will create guides documenting the definitions, disclaimers, assumptions, and parameters associated with the data; recommended uses; limitations of the data; sample analyses; and other advice for users to ensure proper interpretation. The media and format of these guides will vary to ensure that the users will find one that fits their style and needs.

3. Legacy Migration (LM)

The LM project is envisioned as the completion of the systems re-engineering begun by the Insight Data Warehouse. The Insight Data Warehouse brings data from 33 source repositories into a central data store for access by the Insight Dashboard. The Insight Dashboard in turn provides the new capacity for *ad hoc* queries, longitudinal analyses, and research. However, all of the 33 source repositories did not go away, and many legacy reports are still generated from them. In addition, there are many other legacy databases from which reports are generated, such as EDF*acts*. The impact of these legacy systems on DDOE, the schools, and districts is that there remains duplication in reporting, data checking, and processing. Without additional resources, DDOE does not have the capacity to convert these repositories to the Insight Data Warehouse and then to build new reports from those new tables. The LM project will provide the resources to make this migration begin at the time DDOE completes the final phase of the Insight Data Warehouse implementation.

Section (a): Need for the Projects

Delaware needs to seek additional external funding to support its efforts to build out the current K-12 statewide longitudinal data system. The needs are significant and cannot be met with State funds provided through current budgets. The Delaware Department of Education (DDOE) only has sufficient State funding to maintain the level of functionality that has been designed and provided by the State and federal resources associated with the Race to the Top grant that underwrote the building of the Insight Data Warehouse and the Insight Dashboard. Phase 1 of these two projects will be successfully completed and in production by April 2012. The projects continue through 2013 to bring in additional datasets for higher education, labor, and possibly other State agencies; and to add dashboards for additional stakeholders and users such as principals and administrators.

DDOE envisioned a comprehensive technology initiative that guided our successful Race to the Top application. The technology component of this grant provided $6 million for identity management, project management, common course codes, electronic data exchange, data dictionary, and a client ID tracking system. This included the funding for a limited, first phase development of the Insight Data Warehouse ($2 Million) and Insight Dashboard design ($840,000). The build-out of the Dashboard will be completed internally by DDOE. Both are based on the Michael and Susan Dell Foundation Canonical Data Model, now EdFi data model.

However, the limited funding placed a cap on the number of data sources (i.e., legacy repositories) that could be identified for inclusion in the Data Warehouse in the first phase. This in turn limits both the content and the scope of the analyses and decisions that will initially be supported by the Dashboard.

The good news is that the architecture and design of the system are robust. Both the Insight Data Warehouse and the Dashboard will support expansion. The analytical tools and portal capability are available when the contents are there and the users are capable of taking advantage of them.

The Insight Dashboard interface, its analytical tools, and the processes for accessing the data are new and somewhat complex for the school, district, and DDOE users. There were funds in the Insight Data Warehouse and Dashboard projects for training and support of users and DDOE staff. However, these funds covered only the initial introduction of users to the new systems and their capabilities, and the required knowledge transfer from the contractors to the DDOE technical staff who will maintain the systems. Even though DDOE values professional development activities, the funding level of those projects was such that the priority was placed upon building well-architected and functioning infrastructure with the assumption that those had to work at the highest level of performance, then content and user skills could be added in a measured and controlled manner as resources became available.

Thus, DDOE, by mid-2012, will have in place an excellent data warehouse, dashboard, and analytical toolset—an infrastructure with which the Department can confidently collect, manage and present quality, longitudinal data for decision makers.

The Delaware P-20 Council was established in 2003 by Governor Ruth Ann Minner's Executive Order 47 and placed in statute in 2005. The Council is an inclusive organization designed to align Delaware's education efforts across all grade levels. Its main goal is to establish a logical progression of learning from early childhood to postsecondary education while reducing the need for remediation. With cooperation from State leaders, higher education, school administrators, the business community, and parents, the P-20 Council will be able to open more doors for Delaware's children and prepare them to become self-sufficient, contributing members of society who will continue to learn throughout their lives. The goals of the P-20 Council:

- Smooth transitions between these levels will make the schools more efficient and effective while raising the level of student achievement.
- Closing the achievement gap between majority and minority students.

The keys to achieving the goals of the P-20 Council include:

- A challenging curriculum taking into account expectations at the next level.
- Increased teacher recruitment, education, and professional development, especially in critical needs areas.
- An advisement or support system to help identify student problems early and prepare them for success across all levels of education.

In fiscal year 2012 House Bill 213 (HB 213, Attached) was introduced which allows for the sharing of data for required audits or evaluations imposed by state or federal law and allows for sharing of data for research questions approved by the P-20 Council that can help guide policy and practice for better outcomes for students. The legislations also expands the membership of the P-20 Council to include: Secretary of the Department of Labor, Secretary of the Department of Services for Children, Youth and their Families; Secretary of the Department of Health, Chief of the Delaware Chief School Officers Association, President of the Delaware State Education Association, and President of the Charter School Network (or their designees). A significant part also calls for regulations to be developed that governs data collection, analysis, use and reporting (See 'P20 Data Governance Handbook', Attached).

DDOE has used the P-20 Council goals and priorities along with those of its stakeholder groups to identify three priority needs we are ready to address—content, training, and migration.

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First, the priority need for content is local assessments. Teachers need DDOE to provide them with a system for building, administering, scoring, analyzing, and tracking their own local assessments. DDOE needs the resources to acquire a management system for this then the Insight Data Warehouse can be enhanced to store the data and provide them to the Insight Dashboard. The Dashboard will then offer the analytics and reports to integrate the local assessment data with other data already available.

Second, the need to train data providers, users, and managers is crucial to data quality and proper use of the data. DDOE needs to not only directly train people, but also build training modules and materials to create an on-going resource.

Third, the need to migrate the remainder of the legacy databases' reports and processes into the Insight Data Warehouse is basic to the integrity of the overall technology vision. This migration contributes in all the following ways:

1. Increasing Sustainability: DDOE cannot maintain two systems now that the Data Warehouse is being completed. The DDOE resources still devoted to the legacy databases must be migrated to the Data Warehouse.
2. Reducing the Burden on Schools: This also will reduce the duplication of effort and burden on schools and districts that are reporting and receiving reports from the legacy processes.
3. Promoting Research: Without consolidation of the data from across the various legacy repositories and the Data Warehouse, researchers and those conducting *ad hoc* analyses will continue to be required to search across multiple sources for data. However, the greatest need is an expanded toolset, enhanced processes and revised policies that will allow researchers to access the warehouse directly, based upon Family Educational Rights and Privacy Act (FERPA) rules. This will bypass direct DDOE staff contacts and increase efficiency.
4. Updating Federal Reporting and ED*Facts* ETL: An example of a legacy system is ED*Facts*. ED*Facts* is working well now. However, as its source files migrate to the Insight Data Warehouse, ED*Facts* ETL processes must change. Performing this transition in a planned project, using best practices from other states doing the same makes sense and reduces risk.

To help focus the design of these projects, DDOE reviewed the input gathered from stakeholders over the past few years. This allowed DDOE to establish the following criteria for priority and return on investment when selecting and designing the projects to include in the grant application.

- Priority was defined as:
  - a documented need from the schools and districts that would benefit instructional improvement from the use of data,

- a documented need associated with the Insight Data Warehouse and Insight Dashboard projects that was not funded by those projects, or
- a documented need within the DDOE Information Technology (IT) area that if addressed would reduce the data reporting burden on schools and districts, result in improved data quality, and reduce the cycle time for reporting.
- Return on investment was defined as a project that, for the cost, resulted in:
    - the highest amount of useful and timely data and actionable reports being returned to the schools,
    - the highest increase in the quality of the data within the Insight Data Warehouse,
    - the highest increase in the proper use of the data through the Insight Dashboard, or
    - the highest increase in efficiency of the DDOE IT staff in managing the data.

Section (b) Project Deliverables

Three projects were defined that meet these criteria for priority and return on investment.

1. Delaware Local Assessment Builder (LAB)

    The Delaware LAB Project is envisioned to create the capacity for Delaware schools and teachers to manage their own local assessments using both a national content library and local items. Teachers will also be able to both scan their paper tests and have their students take them online. Delaware is well positioned to deliver these local assessments online. We are one of a handful of states that are currently delivering state assessments to students via an online system.

    Schools and districts will manage assessment data mapped to their curriculum and their benchmark assessments. With the capacity to upload these data to the Insight Data Warehouse, the users will be able to link to all the data there. For example, teacher data in the Insight Data Warehouse include performance ratings, certification status, and highly qualified teacher status. For students, the data include elements such as statewide assessment scores, attendance, grades, and discipline. The Insight Dashboard and its reporting tools will then be available for analysis and reporting.
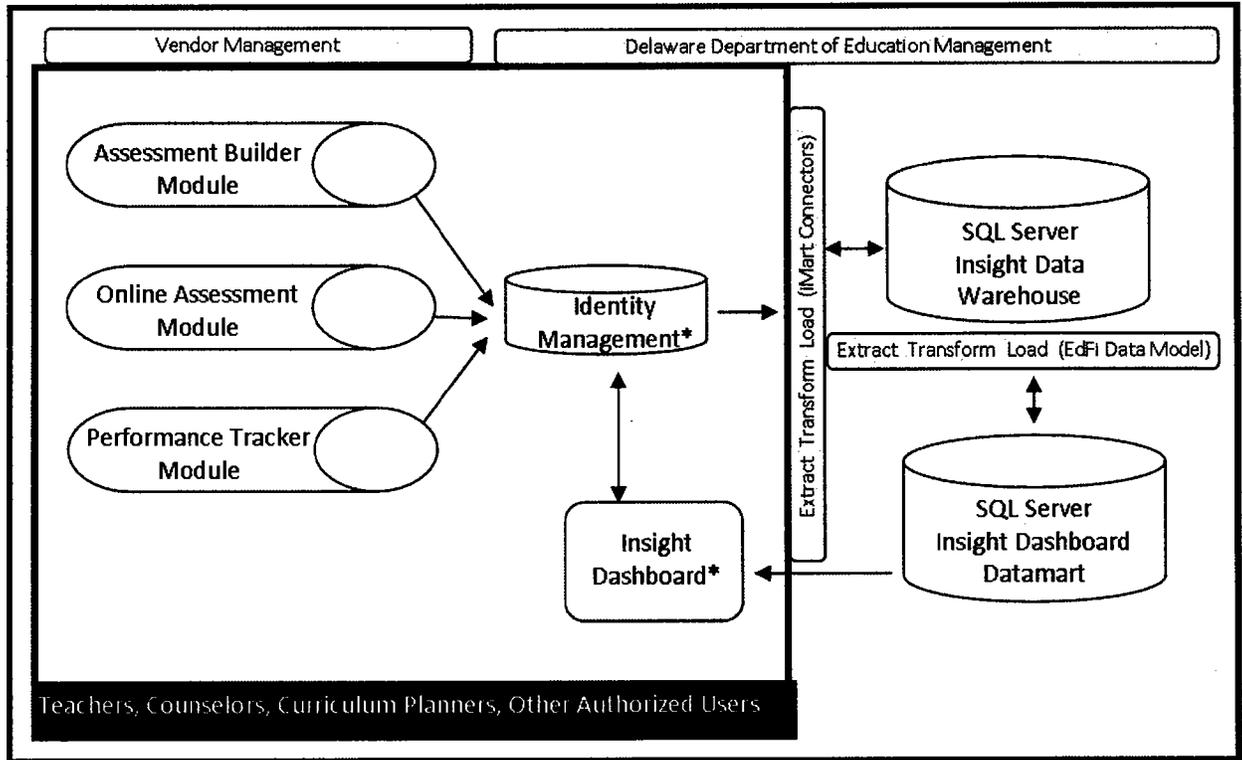
    The LAB addresses the priority of a documented need from the schools and districts that would drive instructional improvement from the use of data. In a survey of districts, about 70 local assessments were reported to be in use. This illustrates the need in Delaware where the statewide assessment Delaware Comprehensive Assessment System (DCAS) is an adaptive measure, computer administered, that does not assign the same items to every student; therefore, diagnostic analyses are not appropriate for classrooms or grade levels within schools as they can be in other states.

Across Delaware, every teacher is creating, administering, scoring, and tracking local assessments for their students; and needing to align them with their curriculum. In addition, Research in Action, Inc. (RIA) and the Delaware Department of Education (DDOE) are constructing a process to create valid measures of student performance in the various subject areas, such as mathematics, English Language Arts (ELA), science, social studies, world languages, visual and performing arts, music, physical education, English as a second language (ESL), and career/technical education (CTE). Measures for teachers, accountability specialists, educational diagnosticians, physical and occupational therapists, school counselors, school nurses, and school librarians are also being developed. These internally developed measures are scheduled to become available no later than July 2012. Further, these measures may also be used in conjunction with the vendor-made (external) assessments approved by the Secretary of Education.

At this time, DDOE does not have the resources to design and import these data, nor to create the reporting processes with the enhanced identity management processes to serve the teachers. A major need is also to procure an assessment-building application with an item bank feature that will provide the schools the functionality to administer the assessments on-line. With this tool, DDOE will be able to establish a start-to-finish process from the classroom to the dashboard.

Figure 1 provides a high-level view of how the LAB components will interoperate with the Insight Data Warehouse and the Insight Dashboard.

Figure 1: Delaware Local Assessment Builder (LAB) Interoperability with Insight Data Warehouse and Dashboard

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│  ┌──────────────────────────┐  ┌──────────────────────────────────────┐   │
│  │    Vendor Management     │  │ Delaware Department of Education Management │
│  └──────────────────────────┘  └──────────────────────────────────────┘   │
```

Assessment Builder Module

Online Assessment Module

Performance Tracker Module

Identity Management*

Insight Dashboard*

Extract Transform Load (IMart Connectors)

SQL Server Insight Data Warehouse

Extract Transform Load (EdFi Data Model)

SQL Server Insight Dashboard Datamart

Teachers, Counselors, Curriculum Planners, Other Authorized Users

LAB will also provide DDOE with the ability to deliver a statewide assessment that can be used for Component 5 of Delaware's Teacher Accountability Program. DDOE is developing statewide assessments to be used for accountability in non-core areas. The integration of the assessment builder application into the Insight Data Warehouse and Dashboard is crucial to the use of the results of the assessments by teachers.

The LAB addresses the return on investment criterion by generating the highest amount of useful and timely data and actionable reports being returned to the schools. By giving individual teachers the capability to create their own assessment items and to use items from banks, a tremendous number of assessment scores will be generated throughout the school year. By the nature of these scores being on-demand, they will meet the criterion of being timely and useful. The reports available from the on-line scoring service will be actionable. The reports from the Insight Dashboard will link teachers and students, and have the capacity to be longitudinal.

Integration of the LAB into the Insight Data Warehouse and Dashboard will require several technical tasks:
- The data elements within the assessment builder application database will need to be entered into DDOE's metadata dictionary.
  - This will be done by defining this database as a repository and describing each table, field, and option set.
  - Next, the fields/elements from the application will be mapped to the core DDOE elements in the metadata dictionary, which are linked to EdFi and

contributed to that national data dictionary effort.
- The source data within the application's database will need to be extracted, transformed, and loaded using the connectors that are part of the tools provided by DDOE's data warehouse. The Insight Data Warehouse will need to be modified to accept the new data from the assessment application.
    o Connectors will need to be built for each database used by the assessment application.
    o New tables will need to be defined and built to accept the data from the assessment builder application.
- The exchange process between the Data Warehouse and the Dashboard will need to be enhanced using the established architecture to move the new data into the Dashboard data mart.
    o The EdFi data model will need to be enhanced.
    o The exchange process and code will need to be expanded to accommodate the additional assessment tables and fields.
- The Insight Dashboard will need to be enhanced to accommodate the additional assessment analysis and reporting functionality and reporting features.
    o After the procurement process for the assessment builder application, the requirements for analytics, user interface, and reporting will need to be accommodated into the Dashboard features.

2. Delaware Data-Driven Analysis Program (3DAP)

The 3DAP has five foci:
1. To train and support the users of the data within the Insight Data Warehouse and accessible through the Insight Dashboard to interpret them correctly and to use them properly.
2. To train and support the providers of data to the Insight Data Warehouse to improve and sustain the quality of the data available for analysis and reporting.
3. To train and support the managers of the Insight Data Warehouse and Insight Dashboard to develop and sustain the skills required to maintain them.
4. To provide additional analytical tools identified by the users and stakeholders as helpful to their understanding of the data.
5. To create and maintain a multi-media library of resources for training and support.

The 3DAP has been designed to leverage the training and support systems and resources that Delaware has established in the past years as part of a comprehensive infrastructure. This varied infrastructure demonstrates DDOE's commitment to the importance of professional development.

Delaware's statewide Professional Development Management System (PDMS) is used to track course work, assign clock hours, and deliver course work. This was used to train

over 10,000 K-12 users at the beginning of the 2010-2011 school year in the new Delaware Performance Appraisal System.

DDOE has in place a contract with Blackboard that will be leveraged as an in-kind resource managed through the PDMS. With the new content and multi-media training and support resources that will be designed and developed by Expanding Delaware's Insight Data Warehouse Reporting and Instructional Improvement Capabilities (for the sake of brevity we are calling this Insight Plus in the rest of the narrative), Blackboard will be used for DDOE staff to schedule training and for individuals to register for training. This training can be instructor-led or Internet provided.

Because Delaware has not held an annual statewide data conference for over a decade, there is no mechanism in place to build upon for training and sharing of best practices. DDOE will provide through Insight Plus as necessary the traditional stipends for training and the fees for rental of facilities within the three counties to reduce travel expenses and time. Various methodologies will be used to expand the effectiveness of the training and support. There are 30 Data Coaches available statewide who can use the materials produced by Insight Plus. Train-the trainer strategies can also be used. The initial activity of the 3DAP will be to build a comprehensive plan for maximizing the resources within Delaware with the resources provided by the grant.

The 3DAP is envisioned to provide the users of the Insight Dashboard and Warehouse the training and support required to understand the data and make full and proper use of them. Users of all roles will be personally trained and have available to them printed and on-line guidance materials.

A major gap in the Insight Data Warehouse and Insight Dashboard projects' funding was in adequate resources for training and support of the users. This is true not only in the short-term, but also in the long-term for sustainability. There is the need for DDOE to create an on-going process for training the users and then for training new users as they enter the community.

The 3DAP addresses the priority of a documented need associated with the Insight Data Warehouse and Insight Dashboard projects that was not funded by those projects. Neither of those projects includes adequate funding for training. Initial training budgets included a minimum of resources for DDOE staff, and some for the end users. However, it is evident now that the extent of the training required is far beyond what can be funded.

The new vision is not only to train users on the Insight Dashboard and how to generate reports, but also to build a library resource of training and support documents and videos. These resources would need to be continually updated for content and for changes in the system.

The 3DAP addresses two of the return on investment criteria; the highest increase in the quality of the data within the Insight Data Warehouse, and the highest increase in the proper use of the data through the Insight Dashboard.

Data quality is significant because preventing poor data from ever entering the Insight Data Warehouse saves resources from being used to edit and clean the data later. Training the data providers either at the school and district levels or in the program offices will be conducted. Improving the documentation they are provided will also be a priority.

As the quantity and complexity of the available data increases, and especially as the number of years of data grows, the challenges for users increase. DDOE will create guides documenting the definitions, disclaimers, assumptions, and parameters associated with the data; recommended uses; limitations of the data; sample analyses; and other advice for users to ensure proper interpretation. The media and format of these guides will vary to ensure that the users will find one that fits their style and needs.

3. Legacy Migration (LM)

This deliverable is the key to sustainability for all the benefits stakeholders will gain from Insight Plus. The Legacy Migration (LM) project is envisioned as the completion of the systems re-engineering begun by the Insight Data Warehouse. The Insight Data Warehouse will bring data from 33 legacy repositories into the central data store for access by the Insight Dashboard. The Insight Dashboard in turn provides the new capacity for *ad hoc* queries, longitudinal analyses, and research. However, all of the 33 source repositories will not go away, and many legacy reports, such as ED*Facts*, are still generated from them. In addition, there are many other legacy databases from which official and management reports are generated. The impact of these legacy systems on DDOE and the schools and districts is that there remains duplication in reporting, data checking, and processing. Without additional resources, DDOE does not have the capacity to convert these repositories to the Insight Data Warehouse and then to build new reports from those new tables. The LM project will provide the resources to make this migration begin at the time DDOE completes the final phase of the Insight Data Warehouse implementation.

For example, the data in the Highly Qualified Teacher database will be extracted, transformed, and loaded into the Insight Data Warehouse using a configured iMart connector. However, the data will still be analyzed and cleansed in the Highly Qualified Teacher database rather than using the new capabilities and processes built within the Insight Data Warehouse. In addition, official reporting is still scheduled to originate from the Highly Qualified Teacher database. A substantial gain in efficiency for the districts and DDOE will be achieved when this grant provides the resources to move the

data analyzing, cleansing, and reporting into the Insight Data Warehouse. The access of these data for official purposes such as ED*Facts* will then be from that new location. Then the final goal of efficiency will be gained when the legacy Highly Qualified Teacher database is retired.

The LM project addresses the priority of a documented need within the DDOE IT area that if addressed would reduce the data reporting burden on schools and districts, result in improved data quality, and reduce the cycle time for reporting. This need is that the Insight Data Warehouse project was able to include only a portion of DDOE's data sources in the initial design. Therefore there is still a legacy of reporting using older systems. For DDOE IT staff, this means that some data are now imported into the Insight Data Warehouse but remain in their legacy databases for official reporting for ED*Facts*, State statistics, and other purposes. For schools and districts, they will continue to receive reports from two processes until all the migration has been completed.

The LM project addresses the return on investment criterion of the highest increase in efficiency of the DDOE IT staff in managing the data. The current legacy systems, reports, and databases require significant personnel to maintain. Migrating them to the Insight Data Warehouse will transition them into the same processes and standards that have been established for those data and reports. The number of FTE personnel required to manage the combined number of reports will be less.

Migrating the additional legacy repositories requires several technical tasks.
- Each repository, database, and their associated reports will need to be documented in DDOE's metadata dictionary.
    - The repositories' tables, fields, and option sets need to be defined in order to align them with the DDOE data standards established for the Data Warehouse.
    - The field contents/elements need to be mapped to DDOE's core data element standards that have been aligned with EdFi.
- Using the metadata, new tables and fields must be built in the Insight Data Warehouse.
    - The source data within the legacy sources will need to be extracted, transformed, and loaded using the connectors that are the tools provided by DDOE's data warehouse. The Insight Data Warehouse will need to be modified to accept the new data from the assessment application.
    - Connectors will need to be built for each database.
    - New tables will need to be defined and built to accept the data from the sources.
- The exchange process between the Data Warehouse and the Dashboard will need to be enhanced using the established architecture to move the new data into the Dashboard data mart.
    - The EdFi data model will need to be enhanced.
    - The exchange process and code will need to be expanded to

accommodate the additional tables and fields.
- The Insight Dashboard will need to be enhanced to accommodate the additional potential analysis and reporting functionality and reporting features.

Section (c) Timeline for Project Deliverables

The development deliverables funded by the Race to the Top grant are scheduled to be completed in April 2012. By that time, users will be able to access the data from that phase through the Insight Dashboard. The data model and processes for enhancing it will be in place. The enterprise information architecture specifying the standards and processes for Extract, Transform, and Load (ETL) and building connectors for new data sources will be established. The enterprise metadata dictionary that manages the definitions and option sets that ensure all data sources are compatible and defined for users will be fully loaded and available to developers and users alike.

By this time, all of the initial training and knowledge transfer provided by the Warehouse and Dashboard contractors will have been completed.

At this time, the DDOE internal staff will take over the maintenance of the updates of the data from the collections to the Data Warehouse to the Dashboard on the periodicity driven by the data collections.

Duplication will be avoided with the Race to the Top grant-funded activities because they will end before the beginning of the new grant. There will be no other federally funded grants providing the same deliverables. The limited available State-funded resources will be used to supplement the deliverables described here by maintaining the Insight Data Warehouse and Dashboard infrastructure, and the legacy repositories until they are migrated to the new system.

May 2012 is the ideal time for a new funding source to begin to provide renewed resources for the next phase that includes the deliverables outlined in the timetable below.

Two of the projects can begin immediately upon funding of the grant.

- 3DAP can begin its project planning activities and build on the content and analysis tools already available in the Insight Dashboard. Then as additional content, tools, features, and functions phase in, the 3DAP activities will expand.
- LM will leverage the ETL process and Insight Data Warehouse architecture already established.

The LAB project will require a procurement process, and will begin project activities after a contract is in place.

Deliverable	Begin Date	End Date	Person/ Office Responsible
1. Local Assessment Builder	May 2012	April 2015	Bruce Dacey
a. LAB Project Plan Finalized	May 2012	July 2012	Bruce Dacey

b. Procurement Process
      i. Requirements published
      ii. Contractor selected
	August 2012	December 2012	Robert Czeizinger & Bruce Dacey

c. Warehouse Integration
      i. Metadata dictionary documentation
      ii. Requirements for ETL
      iii. Development of ETL process
      iv. Testing & Acceptance
      v. Operation
	January 2013	December 2013	Sean Anthony & Bruce Dacey With Data Admin & Pupil Support Teams

d. Software Configuration, Implementation
      i. Requirements documentation & analysis
      ii. Systems preparation
      iii. Installation & testing
      iv. Acceptance & operations
	January 2013	December 2013	Bruce Dacey & Paul Pond with Pupil Support & Information Systems Teams

e. Pilot Implementations
      i. Requirements for pilots
      ii. Selection of pilot schools
      iii. Pilot implementation
      iv. Evaluation of pilots
      v. Expansion to additional schools
      vi. Evaluation & recommendations for full implementation
	March 2013	December 2013	Bruce Dacey & Pupil Support Team

f. Roll Outs
      i. Phase 1 schools selected & trained
      ii. Phase 1 schools implemented & monitored
      iii. Phase 2 schools selected & trained
      iv. Phase 2 schools implemented & monitored
      v. Phase 3 schools selected & trained
      vi. Phase 3 schools implemented &
	January 2014	April 2015	Bruce Dacey & Pupil Support Team

monitored vii. Problem schools remediated			
2. Data Driven Analysis Program	May 2012	April 2015	Sean Anthony
a. DAP Project Plan Finalized	June 2012	August 2012	Sean Anthony

b. Development of Training Modules
        i. User guides for Dashboard modules developed
        ii. Proper use of data guides developed
        iii. Data provider guides developed
	October 2012	December 2014	Sean Anthony & Data Admin Team

c. Training of Staff
        i. Training for DBAs provided
        ii. Training for data providers conducted
        iii. Training alternatives for users launched, evaluated, modified, and finalized
	January 2013	April 2015	Sean Anthony & Data Admin Team

3. Legacy Migration	May 2012	April 2014	Jeff Fleming (Application Support Team)
a. LM Project Plan Finalized	May 2012	July 2012	Jeff Fleming

b. Warehouse Enhancements Developed
        i. Sources documented in metadata dictionary
        ii. ETL requirements documented
        iii. Data model expanded
        iv. Tables built
	August 2012	December 2013	Jeff Fleming & Sean Anthony & Tommy Tao

c. ETL Processes Developed
        i. ETL processes designed
        ii. ETL code written, tested
	November 2012	February 2014	Sean Anthony & Tommy Tao

d. Data Imported, Verified
        i. ETL processes tested, verified, accepted
        ii. Sources imported, verified
        iii. Dashboard analytics run
        iv. Final acceptance completed
	January 2013	April 2014	Sean Anthony, Jeff Fleming, & T Tao with Data Admin and Application Support Teams

4. Project Management	May 2012	April 2015	Robert Czeizinger & TBD
a. Project Management Plan Finalized	May 2012	June 2012	TBD & Robert Czeizinger

i. Weekly status meetings conducted
      ii. Monthly executive updates conducted
      iii. Annual status and evaluation reports submitted
	May 2012	June 2012	TBD

Section (d) Project Management and Governance

Statewide governance of Insight Plus will be assured by aligning it with the P-20 Council. The Delaware P-20 Council was formalized by Delaware Code Title 14, Chapter 1, Subchapter 1 § 107. P-20 Council to coordinate educational efforts of publicly-funded programs from early care through higher education and to foster partnerships among groups concerned with public education. The P-20 Council makes recommendations designed to ensure a more integrated, seamless education system that enables children to enter school ready to learn, receive challenging instruction throughout their school careers, graduate from high school ready for college or work, and continue their education in a way that makes them productive and successful citizens. The P-20 Council is co-chaired by the Secretary of Education and the President of the State Board of Education. The Council members includes the presidents (or their designees) of the public institutions of higher education in Delaware, along with the presidents of the institutions of higher education offering degree programs in education (or their designees). Additional members include the Chair of the Delaware Early Care and Education Council, the Chairs of the House and Senate Education Committees, a representative of the Governor's Office, the Chair of the Business Roundtable Education Committee, and the Executive Director of the Delaware State Chamber of Commerce, or their designees.
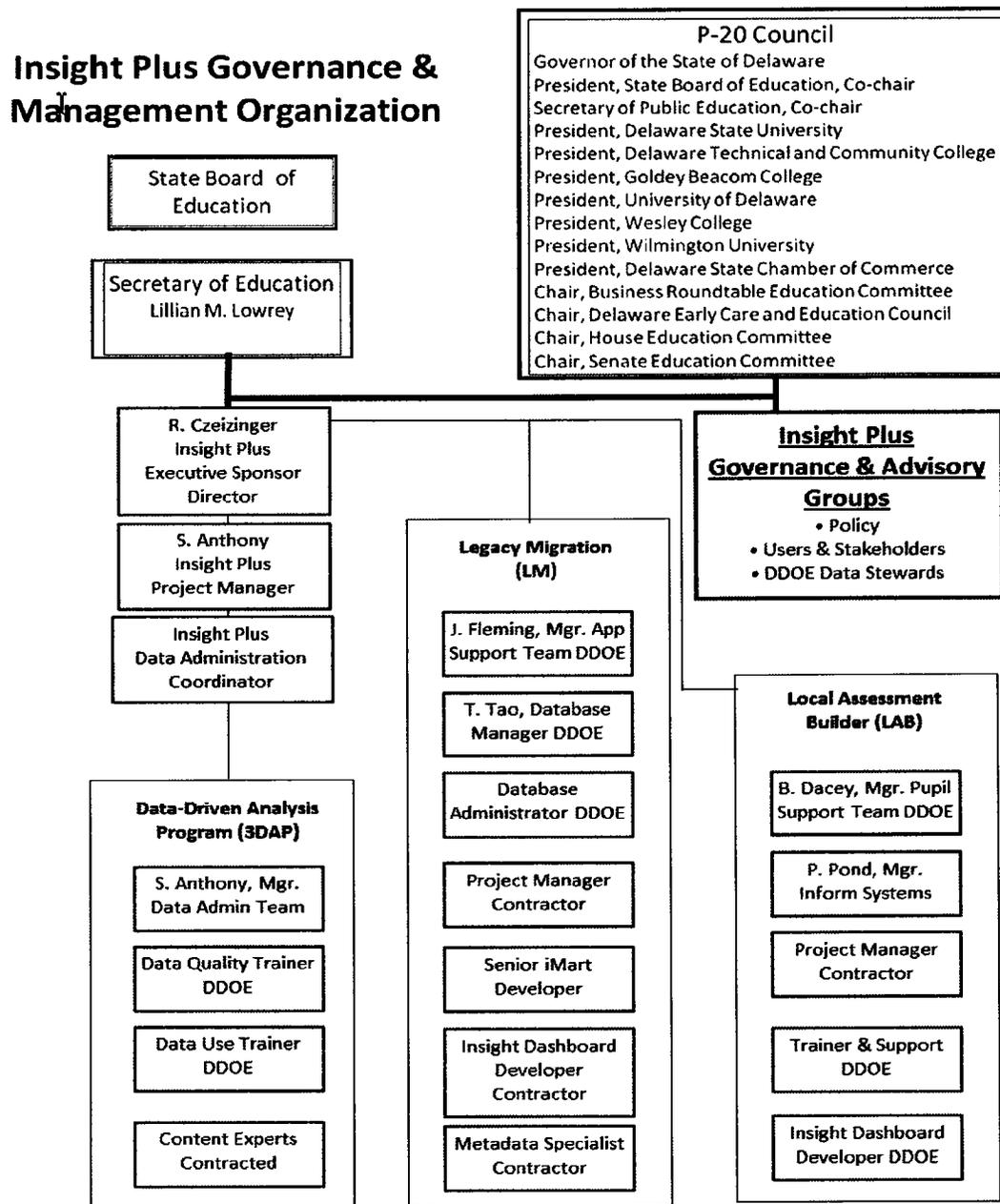
The P-20 Council will continue to monitor the policy-level issues related to the sharing of data across agencies and levels of government compliant with FERPA, HIPAA, State, and other applicable rules. The Delaware Department of Education (DDOE) Executive Sponsor and the Project Manager will monitor compliance with FERPA and these other rules by all parties to Insight Plus.

The Project Executive will guide the development during the first quarter of the project of the Governance Plan. This deliverable will describe how Insight Plus will be governed to ensure both the involvement of key stakeholder groups and the compliance with policy requirements. As a starting point, the plan will be drafted by a working group of stakeholders from a perspective of having a policy oversight group, a stakeholder/data user advisory group, and a

data steward advisory group.

The Delaware P-20 Statewide Longitudinal Data System (SLDS) is located within the DDOE and managed by its technology staff. Figure 2 is an organization chart showing where the management of Insight Plus resides. As is clear, this structure will ensure that the deliverables are seamlessly coordinated and aligned with the Insight Data Warehouse and Dashboard within which they will be created and made available to the users.

Figure 2: Organization Chart for Insight Plus

Insight Plus Governance & Management Organization

P-20 Council
Governor of the State of Delaware
President, State Board of Education, Co-chair
Secretary of Public Education, Co-chair
President, Delaware State University
President, Delaware Technical and Community College
President, Goldey Beacom College
President, University of Delaware
President, Wesley College
President, Wilmington University
President, Delaware State Chamber of Commerce
Chair, Business Roundtable Education Committee
Chair, Delaware Early Care and Education Council
Chair, House Education Committee
Chair, Senate Education Committee

State Board of Education

Secretary of Education
Lillian M. Lowrey

R. Czeizinger
Insight Plus
Executive Sponsor
Director

S. Anthony
Insight Plus
Project Manager

Insight Plus
Data Administration
Coordinator

Legacy Migration (LM)

J. Fleming, Mgr. App Support Team DDOE

T. Tao, Database Manager DDOE

Database Administrator DDOE

Project Manager Contractor

Senior iMart Developer

Insight Dashboard Developer Contractor

Metadata Specialist Contractor

Insight Plus Governance & Advisory Groups
• Policy
• Users & Stakeholders
• DDOE Data Stewards

Data-Driven Analysis Program (3DAP)

S. Anthony, Mgr. Data Admin Team

Data Quality Trainer DDOE

Data Use Trainer DDOE

Content Experts Contracted

Local Assessment Builder (LAB)

B. Dacey, Mgr. Pupil Support Team DDOE

P. Pond, Mgr. Inform Systems

Project Manager Contractor

Trainer & Support DDOE

Insight Dashboard Developer DDOE

For example, the DDOE Data Management Group, which has data quality as its charter, provides a forum to set standards and policy for K-12 data integrity and timeliness (See Data Administration Charter and Data Administration Communication announcing the group, Attached).

The project management of Insight Plus will not only be located along side that of the Insight Data Warehouse and Dashboard but will also be led by the same project management team that successfully managed the Race to the Top's deliverables.

Insight Plus will be managed by DDOE and the certified project manager provided by the contractor selected through the DDOE's standard procurement process. As with the Data Warehouse and Dashboard projects, DDOE and the contractor will use a unique approach to project management designed specifically with education agencies in mind due to the special blend of public politics, divergent stakeholder groups, and technical challenges that make education agencies unique from other businesses. The quality that makes project management by DDOE most successful for an education agency is our teamwork philosophy and methodology of constant communications. DDOE and our contractor will leverage management processes that are grounded in a wealth of resources from the National Center for Education Statistics (NCES) and other national standards groups (e.g., State Automation Site Visits, Decision Support System Best Practice Project, and Performance Based Data Management Initiative (PBDMI) state documentation visits), and the publications from the National Forum on Education Statistics. DDOE will use the standards and benchmarks from Capability Maturity Model (CMM), Capability Maturity Model Integration (CMMI), Control Objectives for Information and Related Technology (CobiT), the Project Management Institute (PMI), ISO9000, Six Sigma, American Productivity and Quality Center (APQC) Process Improvement and Innovation in Education (PIIE), and United States Education Department (USED) best practices studies.

On projects of the magnitude of Insight Plus, DDOE will emphasize our comprehensive management techniques, team communication, and the analysis of project risks to create an environment where all stakeholders are equipped to identify issues and present them in a manner so that both issues and risks can be addressed and resolved methodically and quickly.

DDOE will use our existing internal project management site to support the quick and seamless sharing of project documents. In addition, it allows all schedules, deliverables, design materials, and other project assets to be managed with individual and group role based authentication.

The enforcement of DDOE's enterprise information systems architecture standards will be a primary responsibility of the Project Manager. The metadata standards are described in detail in DDOE's data dictionary, and all three projects, LAB, 3DAP, and LM include resources to ensure they register and maintain their data elements, business rules, and documentation in the metadata tool used by DDOE. The Project Manager for DDOE will monitor this compliance by all projects.

This will ensure the interoperability of all systems, the ability of all projects to collect and provide comparable data, and the ability of the users to understand and interpret the data appropriately.

Section (e) Staffing

Insight Plus will benefit from timing. With the ending of the Race to the Top Data Warehouse and Dashboard projects occurring in April 2012, the experienced Delaware Department of Education (DDOE) staff assigned to those tasks will be available to transition to Insight positions. This provides DDOE a unique benefit. Instead of using these valuable human resources in maintenance and support roles, they can be taken advantage of in creative development roles that they have a part in designing. This will give DDOE a substantial advantage in momentum by avoiding any ramping up or knowledge transfer period at the beginning of the project.

DDOE acknowledges that there will be a significant need for recruiting and hiring qualified people into key positions for this grant. We have carefully analyzed this risk and have planned strategies for addressing it. First, there are realistic timelines for recruiting and filling the positions based upon the experience with the Insight Data Warehouse and Dashboard projects, and with the eSchoolPLUS implementation. Our experienced staff has built the timeline for this grant to provide planning and start-up time in which DDOE personnel will be conducting activities during the time period that contracted staff positions will be filled. This grant has been crafted with a careful mix of experienced in-house professionals and new expertise to give DDOE the team needed to ensure that all three projects are built upon the standards established by DDOE but are open to the best practices available from other states.

Staff Position	FTE	Funding Source	Location	Person Designated
Project Management				
DDOE Executive Sponsor	35%	100% DDOE	DDOE	Robert Czeizinger
DDOE Project Manager	100%	100% DDOE	DDOE	Sean Anthony
Data Administration Coordinator	100%	100% Grant	DDOE	TBD
Local Assessment Builder				
DDOE Coordinator	100%	100% DDOE	DDOE	Bruce Dacey
Assessment	100%	100% Grant	DDOE	TBD

Content Expert				
LAB DBA	100%	100% Grant	DDOE	TBD
LAB Project Manager	100%	100% Grant	Contractor	TBD
LAB Trainer & Support	100%	100% Grant	DDOE	TBD
LAB Insight Dashboard Developer	100%	100% Grant	DDOE	TBD
Data-Drive Analysis Program (3DAP)				
3DAP Project Manager	100%	100% Grant	Contractor	TBD
3DAP Data Quality Trainer	100%	100% Grant	DDOE	TBD
3DAP Data Use Trainer	100%	100% Grant	DDOE	TBD
3DAP Content Experts	Hourly	100% Grant	DDOE	TBD
Legacy Migration (LM)				
LM Database Manager	100%	100% DDOE	DDOE	Tommy Tao
LM DBAs 2	100%	100% Grant	DDOE	TBD
LM Project Manager	Hourly	100% Grant	Contract	TBD
LM Senior iMart Developer	Hourly	100% Grant	Contract	TBD
LM Insight Dashboard Developer	Hourly	100% Grant	Contract	TBD
LM Metadata Specialist	Hourly	100% Grant	Contract	TBD

Description of Requirements

The Data Quality Campaign has provided to states a set of criteria for assessing a longitundinal data system. The table below applies those criteria to the management of the three projects described above.

Governance and Policy Requirements	
<u>Need and Uses.</u> In addition to providing information that helps to improve student achievement and reduce achievement gaps among students, a successful data system should address several of the State's other key educational policy questions. The system should provide data and data-use tools that can be used in education decision-making at multiple levels, from policy to classroom instruction.	The Delaware Department of Education (DDOE) is committed to providing data more available to educators, as well as the tools that will be useful for analyzing the data. This commitment is evidenced in the development of a portal to provide data in the EdFi dashboards being rolled out in the Spring of 2012. To assist DDOE in planning for educator usage of the system, we are planning to review what tools are available and determining what tools best meet the needs of our educators. Additional data is proposed to be provided through developing capacity for formative assessments and tracking student performance. To make the available data even more useful, however, DDOE proposes to develop a comprehensive training and support system that will help educators and others learn how to better understand how to analyze and use data and provide sustainable support for educators over time.
<u>Governance.</u> A successful data system rests upon a governance structure involving both State and local stakeholders in the system's design and implementation. Particularly when expanding the data capacity in existing K-12 systems to include other educational data, an Statewide Longitudinal Data System (SLDS) must identify the entities responsible for the operation of the statewide data system and should include a common understanding of data ownership, data management, and data confidentiality and access, as well as the means to resolve differences among partners.	DDOE has begun the development of a data governance structure as part of the development of the P-20 Council. P-20 committees have been identified and documentation developed concerning membership and responsibilities. Within DDOE, data stewards are identified within the agency. Data confidentiality and access are carefully managed, and there are procedures for researchers to request access to DDOE data. However, more work is needed and will be covered as a part of the activity under this proposal.
<u>Institutional Support.</u> A successful data system requires institutional support from leadership within the State Education Agency (SEA) and from relevant stakeholders within and outside the SEA. The support must include authorization to develop and implement the SLDS, as well as the	DDOE leadership is very supportive of the data development activities and commitment to making high quality data available to users. For instance, support for successful usage of education data is provided by 30 Data Coaches hired by DDOE and housed within school districts.

commitment of necessary staff and other resources. If the SLDS is to be expanded to include data from other systems, all involved institutions must agree to a shared vision for deliverables and objectives.	Letters of support have been collected from an impressive array of partners and stakeholders who will be benefitted by Insight Plus and the on-going operations of the Insight Data Warehouse and Dashboard.
Sustainability. A successful data system requires ongoing support from the SEA after it has been implemented. At a minimum, the system requires ongoing commitment of staff and other resources for system maintenance, quality control, and user training.	DDOE recognizes the need for ongoing support for schools and districts. Support for data providers is available, but DDOE wants to provide more support. One type of support desired is training modules and other materials that can be used by current and future users of the data system. Stakeholders need to be brought into the planning for ongoing support so that their needs are considered. The development of these materials and training modules are included in this proposal, as are the provision of training. DDOE has a long history of supporting SEA systems. For example eSchool is used by every district and charter school, and is maintained by DDOE at zero cost to users.
Technical Requirements	
Federal Reporting. A successful data system must be able to meet Federal reporting requirements, including those of the U.S. Department of Education's (Department) ED*Facts* system. The system should provide efficiencies that reduce the burden of Federal reporting for schools and districts.	DDOE is consistently at the top of the list of ED*Facts* providers, and has been since the beginning. DDOE collects extensive data from LEAs and can easily do federal reporting. DDOE is implementing a new data warehouse, and is planning to transition reporting to come out of the data warehouse. As a result, the reporting will be more direct, but no less accurate and timely.
Privacy Protection and Data Accessibility. An SLDS must ensure the confidentiality of student data, consistent with the requirements of the Family Educational Rights and Privacy Act (FERPA) and State laws or regulations concerning the confidentiality of individual records. The system should also include public documentation that clearly articulates what data will be accessible, to which users, and for what purposes.	DDOE has extensive requirements related to ensuring the confidentiality of student data according to FERPA requirements. Special security components are under development in the new data warehouse to ensure that when access is provided beyond DDOE, the data will be secure. Accessibility will be clearly documented and data users will be expected to adhere to strict standards.

Data Quality. A successful data system must ensure the integrity, security, and quality of data. It should include an ongoing plan for training those entering or using the data, as well as procedures for monitoring the accuracy of information.	Data quality is a continuing concern of DDOE and much is done to ensure that the data are as accurate and valid as possible. For example, the DDOE Data Management Group, which has data quality as its charter, provides a forum to set standards and policy for K-12 data integrity and timeliness. Cross-year comparisons are done. A system is available to identify where students are enrolled in multiple locations, and procedures require the districts to determine what is correct.
Interoperability. The system should use a common set of data elements with common data standards to allow interoperability and comparability of data among programs such as the Common Education Data Standards, as available and applicable. A successful data system has the capacity to exchange data between the SEA and its Local Education Agencies (LEAs), as well as among LEAs, or with other appropriate State agencies or educational entities.	DDOE is committed to using the Common Education Data Standards as available and applicable, including the usage in EdFi "standards" for making data available to educators. The DDOE data governance work requires that data stewards work together to avoid duplicative reporting by LEAs, and to identify the authoritative source for data reported in EDFacts. These activities are also planned for cross-agency work being done by the P-20 Council.
Enterprise-wide Architecture. A successful SLDS includes an enterprise-wide data architecture that links records across information systems and data elements across time and allows for longitudinal analysis of dropout and graduation rates and student achievement growth. The architecture should include, at a minimum, a system for assigning unique student identifiers, a data dictionary, a data model, and business rules. The system must make data dictionaries publicly available.	DDOE has recently completed the development of an enterprise-wide data architecture that shows the data collections, repositories, and reporting data marts maintained by DDOE. DDOE is working on the use of its new data warehouse to do longitudinal analyses of dropouts and graduates, student achievement growth, etc. The current data system consists of a number of data marts for reporting. The goal is to migrate these legacy data marts into the statewide longitudinal data system for future reporting. This will require running parallel processing until data quality is assured.
Data Use Requirements	
Secure Access to Useful Data for Key Stakeholder Groups. Appropriate and secure access to data must be provided to key stakeholder groups including policymakers, SEA program staff, external researchers,	As mentioned above, special security components are under development in the new data warehouse to ensure that when access is provided, the data will be secure. Accessibility levels will be clearly documented

district administrators, and school-level educators. Access must be balanced with the need to protect student privacy and confidentiality consistent with applicable privacy protection laws.	and data users will be expected to adhere to strict standards. LEA users will only have access to their own data; similarly teachers will only see data from their assigned students. External researchers must complete an application for access to the data which is reviewed by DDOE staff for adherence to strict confidentiality standards. DDOE is extremely careful when reporting data to suppress small cells of data and not allow for cross-report comparisons to allow these small cells to be deciphered.
Data Use Deliverables. The system must include deliverables to meet end-user needs (to inform decision-making and evaluate policies and programs) such as reporting and analysis tools. Design of these deliverables must be informed by early and sustained engagement of representatives from user groups to ensure the system will meet their information needs and continuously improve to meet evolving needs.	Insight Plus has a major emphasis on enhancing data use. DDOE is making data available to teachers and administrators via dashboards under development. To ensure that additional analyses can be done, DDOE proposes to give additional analytic capability to LEAs with the implementation of the assessment builder and performance tracking systems. DDOE will work with stakeholders to determine how the systems are being used and what additional capabilities are needed.
Training on Use of Data Tools and Products. The system should include a professional development program to prepare end-users to effectively use the data products.	Training is a major area covered in this proposal. The development of the statewide longitudinal data system is well underway and will be available to users in the Spring of 2012. DDOE needs assistance in developing a set of professional development materials and a training plan to prepare users to benefit from the system. DDOE desires a training/professional development program that will cover initial training, that can be available to existing educators for review after initial training, and that can be used for teachers and administrators new the system in the future. A professional development management system is already available and can be used to provide for enrollment and tracking of participation.
Professional Development on Data Use. The system should include a professional development program to help end-users to effectively interpret and apply the data to	In addition to training on the use of the data system, DDOE desires a professional development program that focuses on effective use of data for decision-making. This

inform decision-making and improve practices.	is also a part of this proposal.
Evaluation of Data Products, Training, and Professional Development. The system should include a process for evaluating the effectiveness of the data use deliverables, and training and professional development programs.	Evaluation is an essential component of DDOE planning for its SLDS. Evaluation at the beginning the project being proposed in this application, various educator tools will be reviewed to determine the fit between educator needs and tool capacity. Once the tools and system are implemented, DDOE will monitor usage of the system and seek stakeholder input on the effectiveness of the system in meeting stakeholder needs. The feedback received from stakeholders will help DDOE to revise training and professional development activities and determine if additional types of support are needed.
Partnerships with Research Community. The State must have a policy in place for the processing of requests for data for research purposes and for communicating the scope of data available for analysis. The State should establish partnerships with internal and/or external research groups to assist with answering questions that can inform policy and practice. The State should actively disseminate research and analysis findings to the public while ensuring confidentiality of individual student data.	DDOE has a longstanding relationship with the research community, including the University of Delaware, regional education organizations, and a California organization. Procedures exist for reviewing applications for access to data. DDOE plans to move these procedures online to allow better tracking of the research. DDOE produces numerous public reports and is extremely careful when reporting data to suppress small cells of data and not allow for cross-report comparisons to allow these small cells to be deciphered.
Sustainability Plan. The system must include a plan for sustaining the deliverables and training beyond the life of the grant.	Establishing an SLDS is an intensive process and ensuring the sustainability of the system is essential. DDOE has developed this proposal to put into place essential components that will ensure the sustainability of the system while being sustainable in and of themselves. Three components are proposed. Migration of legacy data systems into the SLDS will build the capacity of the SLDS to meet essential state needs. The development of a training and support component will also promote the utility of the SLDS. But DDOE is adamant that the training and support program be sustainable, including guidance on how to monitor and update the training and support

	based on stakeholder needs and revisions to the system. The assessment and performance monitoring component is focused on providing long term assistance to educators in devising better ways to help students learn.

DELAWARE LDS GRAND BUDGET

	Outcome #1: K-12 Project Management (PM)					
	Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1 Personnel							
Total Personnel						$0	$0
2 Fringe Benefits			$0	$0	$0	$0	$0
Total Fringe Benefits			$0	$0	$0	$0	
3 Travel							
Trips to SLDS Meetings			$3,000	$3,000	$3,000	$9,000	
Executive Sponsor SLDS Meetings			$3,000	$3,000	$3,000	$9,000	
Total Travel			$6,000	$6,000	$6,000	$18,000	
4 Equipment							
Total Equipment			$0	$0	$0	$0	
5 Supplies							
Total Supplies			$0	$0	$0	$0	

							Project Manager split between LAB and
6 Contractual							
Project Manager	$215,000.00	100%	$215,000	$215,000	$215,000	$215,000	$645,000 3DAP 50% for each project
Total Contractual			$215,000	$215,000	$215,000	$215,000	$645,000
7 Construction							
Total Construction			$0	$0	$0	$0	$0
8 Other							
Total Other			$0	$0	$0	$0	$0
9 Total Direct costs (lines 1-8)			$221,000	$221,000	$221,000	$221,000	$663,000
10 Indirect Costs							
11 Training Stipends							
Total Costs (lines 9-11)			$221,000	$221,000	$221,000	$221,000	$663,000

NOTES
Delaware will supply all related equipment, supplies, and software

DELAWARE LDS GRAND BUDGET

Application: R372A120039

Outcome #2: K-12 Local Assessment Builder (LAB)

	Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1 Personnel							
Total Personnel				$0	$0	$0	
2 Fringe Benefits							
Total Fringe Benefits				$0	$0	$0	
3 Travel							
Total Travel			$0	$0	$0	$0	
4 Equipment							
Total Equipment			$0	$0	$0	$0	
5 Supplies							
Analytical Tools			$100,000			$100,000	
Sungard Performance Tracker with Assessment Builder			$260,000	$260,000	$260,000	$780,000	
Sungard Curriculum Connector			$0	$30,000	$30,000	$60,000	
Total Supplies			$360,000	$290,000	$290,000	$940,000	

6 Contractual						
Assessment Content Expert	$120,000.00		$60,000	$120,000	$120,000	$300,000
Database Administrator	$150,000.00	50%	$75,000	$150,000	$0	$225,000
Insight Dashboard Developer	$150,000.00	50%	$75,000	$75,000	$0	$150,000
Metadata Specialist	$105,000.00	25%	$26,250	$26,250	$26,250	$78,750
Implementation Services for Sungard Software			$330,000	$270,000		$600,000
Training LEA and SEA staff in Sungard PT, AB, and CC			$150,000	$80,000	$50,000	$280,000
Total Contractual			$656,250	$601,250	$76,250	$1,333,750
7 Construction						
Total Construction				$0	$0	$0
8 Other						
Total Other			$0	$0	$0	$0
9 Total Direct costs (lines 1-8)			$1,016,250	$891,250	$366,250	$2,273,750
10 Indirect Costs						
11 Training Stipends						
Total Costs (lines 9-11)			$1,016,250	$891,250	$366,250	$2,273,750

NOTES

DELAWARE LDS GRAND BUDGET

Outcome #3: K-12 Delaware Data Driven Analysis Program (3DAP)

	Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1 Personnel							
Total Personnel			$0	$0	$0	$0	
2 Fringe Benefits							
Total Fringe Benefits			$0	$0	$0	$0	
3 Travel							
Travel Data Quality Trainer			$1,200	$2,400	$2,400	$6,000	
Travel Data User Trainer			$1,200	$2,400	$2,400	$6,000	
Total Travel			$2,400	$4,800	$4,800	$12,000	
4 Equipment							
Total Equipment			$0	$0	$0	$0	
5 Supplies							
Total Supplies			$0	$0	$0	$0	

6 Contractual					
Data Quality Trainer	105000	$52,500	$105,000	$105,000	$262,500
Data User Trainer	105000	$52,500	$105,000	$105,000	$262,500
Content Experts			$54,000		$54,000
Training Facilities Rental		$15,000	$5,000	$5,000	$25,000
Total Contractual		$120,000	$269,000	$215,000	$604,000
7 Construction					
Total Construction					
8 Other		$0	$0	$0	$0
Total Other		$0	$0	$0	$0
9 Total Direct costs (lines 1-8)		$122,400	$273,800	$219,800	$616,000
10 Indirect Costs					
Data Quality & Dashboard					
11 Stipend		$217,000	$54,250	$54,250	$325,500
Total Costs (lines 9-11)		$339,400	$328,050	$274,050	$941,500

NOTES
Delaware will supply all related equipment, supplies, and software

Application: R372A120039

DELAWARE LDS GRAND BUDGET

Application: R372A120039

Outcome #4: K-12 Legacy Migration (LM)

	Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1. Personnel							
Total Personnel			$0	$0	$0	$0	
2. Fringe Benefits							
Total Fringe Benefits			$0	$0	$0	$0	
3. Travel							
Total Travel			$0	$0	$0	$0	
4. Equipment							
Total Equipment			$0	$0	$0	$0	
5. Supplies							
Total Supplies			$0	$0	$0	$0	

6 Contractual			
Legacy Migration Contract	$250,000	$250,000	$250,000	$750,000
Total Contractual	$250,000	$250,000	$250,000	$750,000
7 Construction			
Total Construction	$0	$0	$0	$0
8 Other			
Total Other	$0	$0	$0	$0
9 Total Direct costs (lines 1-8)	$250,000	$250,000	$250,000	$750,000
10 Indirect Costs			
11 Training Stipends			
Total Costs (lines 9-11)	$250,000	$250,000	$250,000	$750,000

NOTES

DELAWARE LDS GRAND BUDGET

GRAND TOTAL (ALL OUTCOMES)

	Year 1	Year 2	Year 3	3-Year Total
1 Personnel				
Total Personnel	$0	$0	$0	$0
2 Fringe Benefits				
Total Fringe Benefits	$0	$0	$0	$0
3 Travel				
Total Travel	$8,400	$10,800	$10,800	$30,000
4 Equipment				
Total Equipment	$0	$0	$0	$0
5 Supplies				
Total Supplies	$360,000	$290,000	$290,000	$940,000
6 Contractual				
Total Contractual	$1,241,250	$1,335,250	$756,250	$3,332,750
7 Construction				
Total Construction	$0	$0	$0	$0
8 Other				
Total Other	$0	$0	$0	$0
9 Total Direct costs (lines 1-8)	$1,609,650	$1,636,050	$1,057,050	$4,302,750
10 Indirect Costs				
11 Training Stipends	$217,000	$54,250	$54,250	$325,500
Total Costs (lines 9-11)	$1,826,650	$1,690,300	$1,111,300	$4,628,250

NOTES

DATA ADMINISTRATION CHARTER

Technology Resources and Data Development Workgroup
Data Administration Sub Group Charter

1. **Purpose**
   The Data Administration sub group is responsible for planning, oversight, management and execution of the intra-agency governance practices within the Delaware Department of Education. Data Administration provides control over the business practices used to collect, validate, store and disseminate data important to the DDOE mission.

2. **Critical Success Factors**
   There are six significant factors critical to the success of the DOE Data Administration function. Each factor is measured and tracked as part of an annual information management planning process.

   - Accurate and timely data is available to support decision-making and reporting throughout the DOE organization. The right data must be available to the right people, when it is needed.
   - Data standards exist for critical management and reporting subject areas (core subject areas).
   - Data standards are documented in a data dictionary, and are well understood by stakeholders and data users.
   - Fragmentation and redundancy of data are minimized. There is a single source for core subject area data and theses sources are used in all new and existing systems.
   - Automated and manual processes exist to identify, track and correct data quality conditions. Data quality status is frequently communicated to system users.
   - Data is only shared when both parties understand who will be using the data, how the data will be used, and how privacy will be protected.

3. **Organization**
   The data administration organization is shown in Figure 1. The Data Administrator reports to the Director of Technology Resources and Data Development, and manages the Data Administration Sub-group. This group is responsible for day-to-day data administration activities, and is supported by a working group comprised of data stewards within TRDD.

   The Education Insight Data Management Group, comprised of program managers who are the owners of the department's data assets, provides program policy and direction for the data administration function. The Director of TRDD chairs this group. There is a close working relationship between the data owners and the data steward for each core data subject area.

4. **Background**
   Historically, data administration within the TRDD has been the job of each individual having data stewardship responsibilities. Technical staff are required to be aware of applicable policies and procedures and to apply them correctly in their day-to-day activities, while oversight of the policies is just one of many responsibilities of the TRDD director. To meet expected future demands introduced by the development of the Insight Data Warehouse, a more formal data administration structure is needed, along with operational management of the data administration function.

   The successful implementation of the warehouse will require extensive collaboration between The Technology Resources and Data Development workgroup and program managers throughout the

department, as data from eSchool and twenty-three longitudinal databases are brought together into a single, integrated system.

As data is prepared for integration, each element will need to be examined for completeness, validity, and accuracy. More importantly, the database as a whole will need to be evaluated to ensure that current and future program needs for reporting and policy analysis are being addressed. Along the way, decisions will need to be made about the inclusion of specific data sets in the warehouse and everyone will need to work quickly to resolve data quality issues as they are identified.

5. **Scope and Process**
Data administration processes are controlled thorough the information management plan, which is updated annually as part of the DDOE budget process. The planning process involves an analysis of exiting systems and progress against the critical success factors; identification of legislative, administrative and management priorities; identification of goals and objectives for the upcoming year; and the development of action plans to address the goals and objectives.

Operationally, the Data Administration sub group is responsible to:

- Evaluate requests for the development of new systems or changes to existing ones to ensure that data administration standards are being addressed.
- Collaborate with data owners around issues of reporting, data management and regulations that constrain data management practices.
- Review data sharing requests and the development and execution of memoranda of understanding that establish the terms and conditions of the sharing.
- Maintain an inventory of existing systems and the data owners and stewards responsible for these systems.
- Oversee and track data quality assurance processes to ensure that issues are being resolved in a timely manner.
- Champion data administration policies and practices throughout the department.

DATA ADMINISTRATION COMMUNICATION

From: Czeizinger Robert
Sent: Tuesday, April 05, 2011 11:11 AM
To: Rush Michele; D'Souza Melvin; Ruggiero Tony; Sadowski John; Purnell Fran; Phillips Alan; Haberstroh Susan Keene; Rozumalski Dennis; Degnats Maria; Alexander Lisa; Reihm Joanne; Peoples Adrian; Jarrell Ted; Anthony Sean; Berry Don; Dacey Bruce; Downer Corey; Fertitta Tony; Fjelsted Fields Vicki; Fleming Jeff; Hansen Jeff; Kuykendall Scott; Maccari Nicholas; Marcum Lisa; Nomani Haseeb; Peoples Adrian; Reese Robinson; Stover Debbie; Tan Justin; Tao Qi Tommy; Coffield Judi; Richard Terry; Moore Margaret
Cc: Kough Theresa Vendrzyk; Barton Wayne; Stetter Michael; Toomey Martha; Wolfe Linda; Rogers Karen Field; Hodges Amelia; Rogers Linda; Cruce Daniel
Subject: Education Insight Data Management Group

All,

The staff of the Technology Resources and Data Development (TechRaDD) Workgroup has been managing a couple of important projects for our Race to the Top award. One of the most extensive is the work on our new longitudinal data warehouse project called the Education Insight Warehouse. This project will bring together data from eSchoolPlus and twenty-three longitudinal databases into a single integrated data system. The successful implementation of the new Education Insight Warehouse will require

extensive collaboration between the TechRaDD workgroup along with program managers and data analysts throughout the department.

As data is prepared for integration, each element will need to be examined for completeness, validity, and accuracy. More importantly, the database as a whole will need to be evaluated to ensure that current and future program needs for reporting and policy analysis are being addressed. Along the way, decisions will need to be made about the inclusion of specific data sets in the warehouse and everyone will need to work quickly to resolve data quality issues as they are identified.

The TechRaDD workgroup is charged with the administration and stewardship of the department's data. However, the department's internal program managers are the owners of this data and they are the ones responsible for using this data to measure and report on the success of their organizations.

To this end, the Education Insight Data Management Group (DMG) is being established to participate in the development and management of the Education Insight Warehouse. This group will be sponsored by Bob Czeizinger, coordinated by Sean Anthony, and staffed by program managers and data analysts from each of the branches. Staff from the TechRaDD Workgroup will provide support to this committee.

An orientation session for the DMG members is being scheduled for some time in the next few weeks. This session will provide more details around the roles and responsibilities of group members, and will provide an overview of the Education Insight Warehouse project, goals, and expectations. With all of the staff changes in the department over the last two years, I have included all of the Program Managers and Data Analysts that I am aware of but if you think of anyone else who should be included please let me know.

Thanks to all of you for your support of this initiative.

Robert E. Czeizinger

Director/Technology Resources and Data Development

Delaware Department of Education

401 Federal Street, Suite #2

Dover, DE 19901-3639

302.735.4140 (T) 302.739.4221 (F)

bobcz@doe.k12.de.us

HB 213 – DATA GOVERNANCE

SPONSOR: Rep. Schooley & Rep. Miro & Sen. Sokola
Reps. Barbieri, Jaques, J. Johnson, Keeley, Mitchell,
Mulrooney, Scott; Sen. Sorenson

HOUSE OF REPRESENTATIVES
146th GENERAL ASSEMBLY

HOUSE BILL NO. 213

AN ACT TO AMEND TITLE 14 OF THE DELAWARE CODE RELATING TO EDUCATIONAL DATA GOVERNANCE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

1   Section 1. Amend § 107(a), Title 14 of the Delaware Code, by striking the words "or work" as they appear in the

2   second sentence and replacing with the words "and careers"; further amend this sentence by adding the words "through

3   postsecondary study" after the words "their education" as they appear in the sentence.

4   Section 2. Amend § 107(b), Title 14 of the Delaware Code by striking the word "and" before the phrase "the

5   Executive Director of the Delaware State Chamber of Commerce," and adding the following language to the last sentence

6   of that subsection, before the phrase "or their designees.":

7   "the Secretary of the Department of Labor, the Secretary of the Department of Services for Children, Youth and

8   their Families, the Secretary of the Department of Health and Social Services, the Chief of the Delaware Chief School

9   Officers Association, the President of the Delaware State Education Association, and the President of the Charter School

10   Network."

11   Section 3. Amend §121(a)(10), Title 14 of the Delaware Code by adding the following language after the phrase

12   "educational conditions" and before the semi-colon:

13   "including, without limitation, conducting an audit or evaluation of education programs; developing, validating, or

14   administering predictive tests; administering student aid programs; improving instruction; conducting research and

15   evaluation regarding federal, state or local education and training programs; or providing for the enforcement of or

16   compliance with federal legal requirements relating to those programs".

17   Section 4. Amend §121(a)(10), Title 14 of the Delaware Code by adding the following language after the phrase

18   "for such investigations," and before the word "employing":

19   "collaborating with other organizations, including, without limitation, the P-20 Council, to conduct studies for or

20   on behalf of the Department,".

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Application: R372A120039

21   Section 5. Amend §121(a), Title 14 of the Delaware Code by striking the word "and" as it appears in subsection

22   (15)c., striking the period at the end of subparagraph (16) and substituting in lieu thereof the following "; and", and adding

23   a new subparagraph (17) thereto as follows:

24   "(17) Collecting, integrating and reporting longitudinal student and educator data for such purposes as

25   implementing federal- or state-required education performance accountability measures; conducting research and

26   evaluation regarding federal, state and local education and training programs; and conducting audits and ensuring

27   compliance of those programs with applicable federal and state requirements.".

28   Section 6. Amend §122(b), Title 14 of the Delaware Code by striking the word "and" at the end of subparagraph

29   (20), striking the period at the end of each of subparagraphs (21) and (22) and substituting for each a semicolon; striking the

30   period at the end of subparagraph (23) and substituting "; and", and adding a new subparagraph (24) thereto as follows:

31   "(24) Providing for the governance of any longitudinal data system or database, and governing the collection, use,

32   maintenance, disclosure and sharing of educational records and the information contained therein. Rules and regulations

33   promulgated pursuant to this subparagraph shall be developed in consultation and cooperation with the P-20 Council and

34   Interagency Resource Management Committee (IRMC) and with the consent of the State Board of Education and shall

35   comply with state and federal privacy and confidentiality laws, including, without limitation, the Family Educational Rights

36   and Privacy Act, the Protection of Pupil Rights Amendment and the Individuals with Disabilities Education Act each as

37   amended from time to time.".

38   Section 7: Amend § 4111, Title 14 of the Delaware Code by adding a new subsection (b) as follows, and re-

39   lettering the existing subsections (b) and (c) as subsections (c) and (d), respectively:

40   "(b) The provisions of subsection (a) notwithstanding, educational institutions and programs operating in this State,

41   including postsecondary institutions and programs regulated by a state agency, shall disclose to the Department such

42   education records, and personally identifiable information contained therein, necessary for the audit or evaluation of State

43   and federal education programs in accordance with the terms and conditions of a written agreement negotiated between the

44   Department and each educational institution or program from which education records are sought. Such agreements shall:

45   (i) state the term of the agreement; (ii) comply with the requirements of the Family Educational Rights and Privacy Act

46   Regulations set forth in 34 CFR Part 99 regarding the Department's use, compilation, maintenance, protection, distribution,

47   re-disclosure and return/destruction of education records obtained hereunder; (iii) specify the data elements to be disclosed

48   by the educational institution or program; (iv) state the purpose for which the information will be used; (v) prohibit any

49   disclosure of education records or personally identifiable information contained therein by an educational institution or

50   program in violation of applicable State or federal privacy laws; (vi) prohibit any modification or amendment except by

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51   written agreement duly executed by the parties: and (vi) contain such additional provisions as agreed upon. All disclosures

52   required by this section shall be for the purpose of ensuring the effectiveness of publicly-funded programs by connecting

53   pre-kindergarten through grade 12 and post-secondary data, and sharing information to improve early childhood and

54   workforce programs as set forth in Delaware's State Fiscal Stabilization Plan and Delaware's Race to the Top Plan, or as

55   otherwise approved by the P-20 Council."

56   Section 8. Amend § 4111. Title 14 of the Delaware Code by adding to the newly re-lettered subsection (c) the

57   phrase "and eligible students" after the word "parents" and by adding the phrase "or themselves" after the word "children".
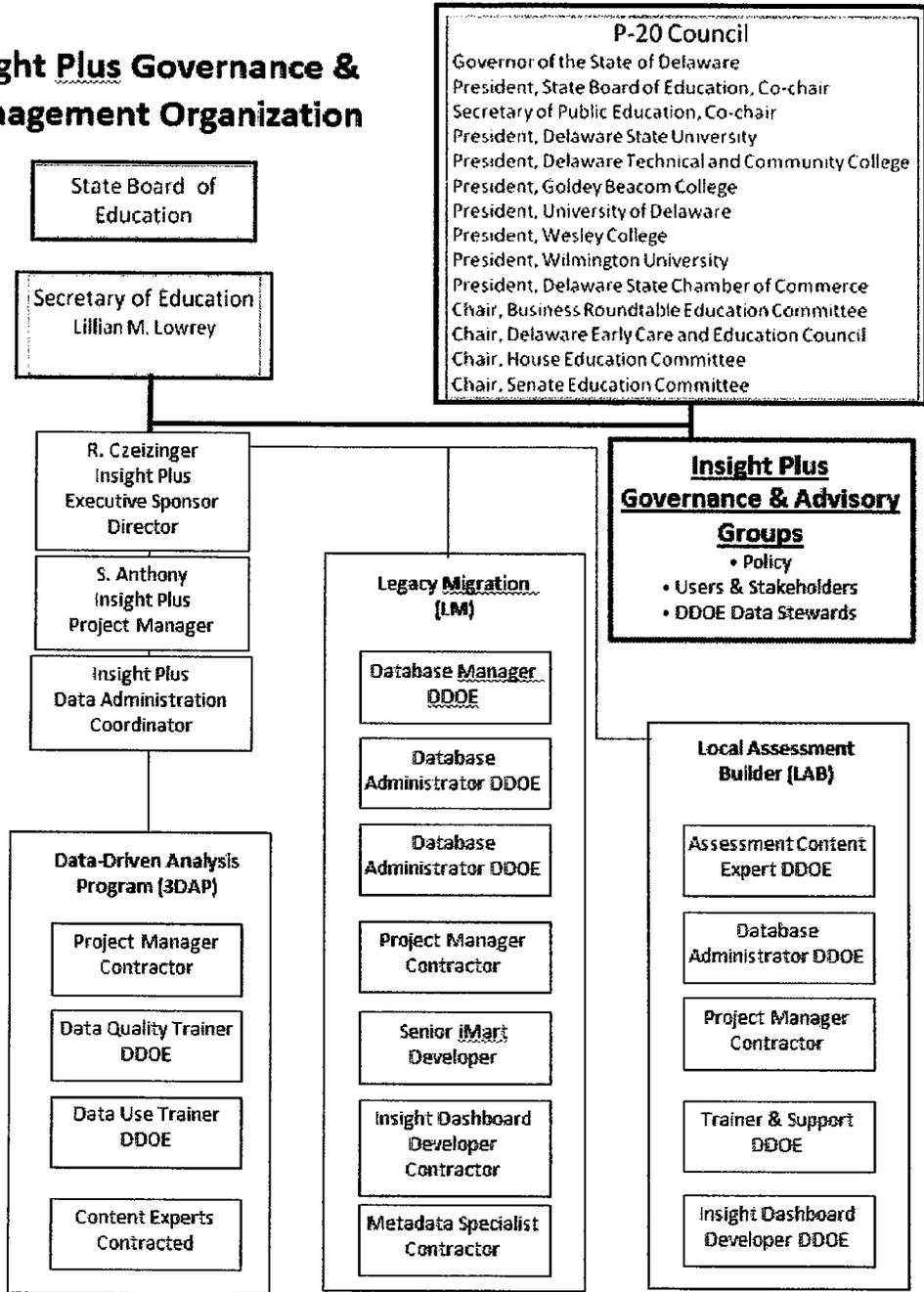
58   Section 9. Amend § 4111. Title 14 of the Delaware Code by deleting "and (b)" in the last sentence of the newly

59   re-lettered subsection (d) and replacing it with "through (c)

SYNOPSIS

This Act allows the Department of Education to conduct audits and evaluations, including studies for improving instruction and complying with State and federal accountability measures: to collect data to effectuate those activities: and to promulgate regulations to govern the collection and use of educational records, including those in the longitudinal database. The intent of the legislation is to also provide for the ability of other researchers to access the interagency database for approved research studies through defined processes through the oversight of the P-20 Council. This Act also expands the membership of the P-20 Council.

ORGANIZATION CHART

Insight Plus Governance & Management Organization

P-20 Council
Governor of the State of Delaware
President, State Board of Education, Co-chair
Secretary of Public Education, Co-chair
President, Delaware State University
President, Delaware Technical and Community College
President, Goldey Beacom College
President, University of Delaware
President, Wesley College
President, Wilmington University
President, Delaware State Chamber of Commerce
Chair, Business Roundtable Education Committee
Chair, Delaware Early Care and Education Council
Chair, House Education Committee
Chair, Senate Education Committee

State Board of Education

Secretary of Education
Lillian M. Lowrey

R. Czeizinger
Insight Plus
Executive Sponsor
Director

Insight Plus Governance & Advisory Groups
- Policy
- Users & Stakeholders
- DDOE Data Stewards

S. Anthony
Insight Plus
Project Manager

Legacy Migration (LM)

Insight Plus Data Administration Coordinator

Database Manager DDOE

Database Administrator DDOE

Database Administrator DDOE

Project Manager Contractor

Senior iMart Developer

Insight Dashboard Developer Contractor

Metadata Specialist Contractor

Local Assessment Builder (LAB)

Assessment Content Expert DDOE

Database Administrator DDOE

Project Manager Contractor

Trainer & Support DDOE

Insight Dashboard Developer DDOE

Data-Driven Analysis Program (3DAP)

Project Manager Contractor

Data Quality Trainer DDOE

Data Use Trainer DDOE

Content Experts Contracted

P-20 DATA GOVERNANCE HANDBOOK

Purpose and Overview

The purpose of this document is to outline the roles and responsibilities regarding data governance for the Delaware P-20 Council. Organizations often suffer the symptoms of not having clear data governance processes in place. These symptoms can include:

- Ownership of key data elements is unclear.
- The responsibilities of data owners are not well understood.
- Data stored in multiple locations has no identified single source for the "correct data," potentially resulting in multiple versions of "the truth."
- Data quality is in question.
- Data availability to the right people for critical policy decisions and report deadlines is difficult.
- Data is released to the media or community that is in error.

This creates a critical need to create or improve data management or governance processes in order to:

- Meet the organization's strategic plan goals and objectives; and,
- Provide accurate, timely, critical and easy-to-use information that is essential to a process of informed decision-making.

An analogy, to help put this rather complicated issue in perspective, is the municipal planning and zoning process common to most cities and towns across the country. Towns that have grown rapidly without the benefit of good zoning ordinances suffer the haphazard appearance and poor traffic flows that result from the lack of planning and zoning ordinances and standards. Conversely, a municipality that has had in place good zoning ordinances for a number of years is easily identifiable, with an organized and orderly appearance, good traffic patterns and appropriately placed buffer areas between the zones.

Just as zoning ordinances take time to change the landscape of a town, a data management process will take time to re-shape information systems. But if the organization institutionalizes this process it can begin to make a profound impact on an immediate basis. Similar to a planning and zoning process, a data governance process is built upon policies, review boards, standards and clearly defined roles and accountability. A data governance process begins by identifying all of the organization's data categories, the data stewards and data owners and the primary application (system of record) for each category of data. The program then builds a governance structure and a review and decision-making process around these data categories and the corresponding data stewards. The roles and responsibilities relative to this process are described in this document.

Important Terms

A number of terms will be used throughout this document that may be unfamiliar. Below is a list of terms and their definitions for your reference.

Term	Meaning
Business Rule	A statement expressing a policy or condition that governs business actions and establishes data integrity guidelines. Example: Grade level Business Rule – To be considered eligible for Kindergarten the student must be five years old by a specific date that is determined by the state.

Term	Meaning
Database	A structure and mechanism for the storage, description and management of discrete data elements and bodies of information. A collection of specialized data elements could be referred to as a "data mart" or "data cube," e.g., "DCAS Data Mart," or "P-20 Data Cube."
Data Category	A grouping of related data elements, e.g. "demographic data," "dropout data," "graduation data."
Data Dictionary	A system and/or document to keep track of the data elements within an organization and the metadata for all of the elements. The dictionary includes descriptive information about each data element including type, length and description.
Data Definition	The description or meaning for a data field. Example: Grade level Definition – A level of academic development to which a particular student is assigned.
Data Element	Name of a discrete piece of data. Example: Grade Level data element name = Grade Level.
Data Governance	A combination of policies, organizational roles and responsibilities, committees, workgroups, charters and job descriptions that collectively describe how decisions are made, monitored and enforced regarding the management of the organization's data.
Data Owner	An individual assigned responsibility for a particular set of data.
Data Request	A request from an internal or external customer for data to be supplied in a specified format for a specific reason such as a report, analysis, comparison, research, etc.
Data Steward	The employee assigned to be responsible for the data related to a specific program area. A business subject matter expert designated and accountable for assisting with analysis, quality, and use of the data as well as documentation of appropriate metadata.
EDEN	Education Data Exchange Network. The online portal used to submit data files for the EDFacts initiative.
EDFacts	EDFacts is a U. S. Department of Education initiative to put performance data at the center of policy, management and budget decisions for all K-12 educational programs. EDFacts centralizes performance data supplied by K-12 state education agencies (SEAs) with other data assets, such as financial grant information, within the Department to enable better analysis and use in policy development, planning and management.
Enterprise Data System	System for effective capture, cleansing, transformation, storage, definition, and use of data.
Institution of Higher Education	Education beyond the secondary level. This includes community colleges, technical schools, colleges and universities.
K-12	Refers to the public school system from kindergarten through the secondary level.

Term	Meaning
LEA	Local Education Agency. A public school district comprised of elementary, middle and/or secondary schools. In Delaware an LEA may also refer to a charter school.
Metadata	A term used for data that describes a specific element or set of data. The term refers to all of the characteristics that need to be known about data in order to build databases and applications, and to effectively use data for policy and decision making.
MOU	A memorandum of understanding is an agreement between two parties in written form that outlines each party's responsibility when sharing data.
NCLB	The No Child Left Behind federal legislation signed into law on January 8, 2002.
Permitted Value	Specific values that may be contained in a field. Example: Grade Level Permitted Values - K, 01, 02, 04, 05, 06, 07, 08, 09, 10, 11, and 12.
Postsecondary	A term used to describe or relating to education in Delaware taking place after leaving high school
Project Plan	A linear plan with defined beginning and end dates for a data project that provides details such as the project purpose, major activities and deliverables and the individuals and roles critical to the project's success.
Project Management	Coordination of a project's resources in order to attain the project's specified deliverables.
Project Sponsor	The highest level of support for a project. The Project Sponsor assumes overall responsibility for the project's completion and is able to ensure that the necessary resources are available in order to complete the project.
Secondary	Refers to a public high school.
Source System	Typically a transactional IT system or database essential to an operational aspect of an agency or institution.
Subject Matter Expert	A business person who has significant experience, responsibility, and knowledge of a given business subject or function.
Research Agenda	A roster of required and discretionary reports and research projects that require shared data elements, subject to periodic review and revision.

Intra-Agency Data Governance (DDOE)

Purpose

In order to meet expected future demands introduced by the development of DDOE's Insight Data Warehouse, the Technology Resources and Data Development Workgroup recognized that a formal data administration structure was needed along with operational management of the data administration function. The successful implementation of the warehouse requires extensive collaboration between the Technology Resources and Data Development workgroup and program managers throughout the Department, as data from eSchool and twenty-three longitudinal databases are brought together into a single, integrated system.

As data is prepared for integration, each element will need to be examined for completeness, validity, and accuracy. More importantly, the database as a whole will need to be evaluated to ensure that current and future program needs for reporting and policy analysis are being addressed. Along the way, decisions will need to be made about the inclusion of specific data sets in the warehouse and everyone will need to work quickly to resolve data quality issues as they are identified.

Model

A Data Administrator reports to the Director of Technology Resources and Data Development, and manages the Data Administration Sub-group. This group is responsible for day-to-day data administration activities, and is supported by a working group comprised of data stewards within TRDD.

The Education Insight Data Management Group, comprised of program managers who are the owners of the department's data assets, provides program policy and direction for the data administration function. The Director of TRDD chairs this group. There is a close working relationship between the data owners and the data steward for each core data subject area.

DDOE Data Administration Sub-group

Role

The Data Administration sub group is responsible for planning, oversight, management and execution of the intra-agency governance practices within the Delaware Department of Education. Data Administration provides control over the business practices used to collect, validate, store and disseminate data important to the DDOE mission.

Scope and Responsibilities

Data administration processes are controlled thorough the information management plan, which is updated annually as part of the DDOE budget process. The planning process involves an analysis of exiting systems and progress against the critical success factors; identification of legislative, administrative and management priorities; identification of goals and objectives for the upcoming year; and the development of action plans to address the goals and objectives.

Operationally, the Data Administration sub-group is responsible to:

- Evaluate requests for the development of new systems or changes to existing ones to ensure that data administration standards are being addressed.
- Collaborate with data owners around issues of reporting, data management and regulations that constrain data management practices.
- Review data sharing requests and the development and execution of memoranda of understanding that establish the terms and conditions of the sharing.
- Maintain an inventory of existing systems and the data owners and data stewards responsible for these systems.
- Oversee and track data quality assurance processes to ensure that issues are being resolved in a timely manner.
- Champion data administration policies and practices throughout the department.

Delaware P-20 Council Data Governance Model

The Delaware P-20 Council

The Delaware P-20 Council was established in 2003 by Governor Ruth Ann Minner's Executive Order 47 and initially codified in 2005. The Council is an inclusive organization designed to align Delaware's education efforts across all grade levels. Its main goal is to establish a logical progression of learning from early childhood to post-secondary education while reducing the need for remediation. The P-20

Council will look at data throughout the education pipeline in order to make recommendations toward the achievement of a more integrated, seamless education system.

The P-20 Council will make linkages between student-level data elements housed in disparate state agencies and institutions of higher education. Policies and procedures must be established that both secure data and facilitate its responsible use in order to assist policymakers in making decisions that will ensure that Delaware's children graduate from high school ready for college or careers.

Model

The Delaware P-20 Council's data governance structure reflects a three-tiered model. This model reflects three levels of data governance authority: P-20 Council Executive, P-20 Sub-Committee and Agency/Institutional. Problem resolution including issues, questions, and recommendations move up the model while data project implementations move down.
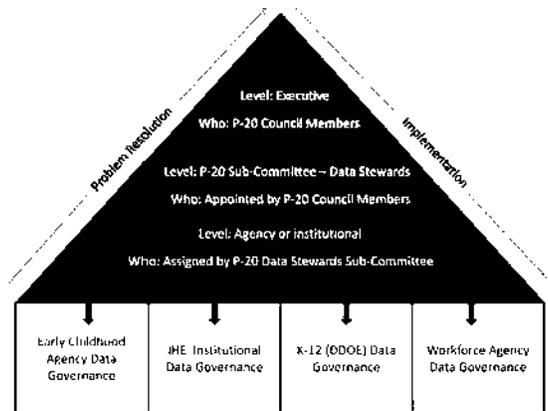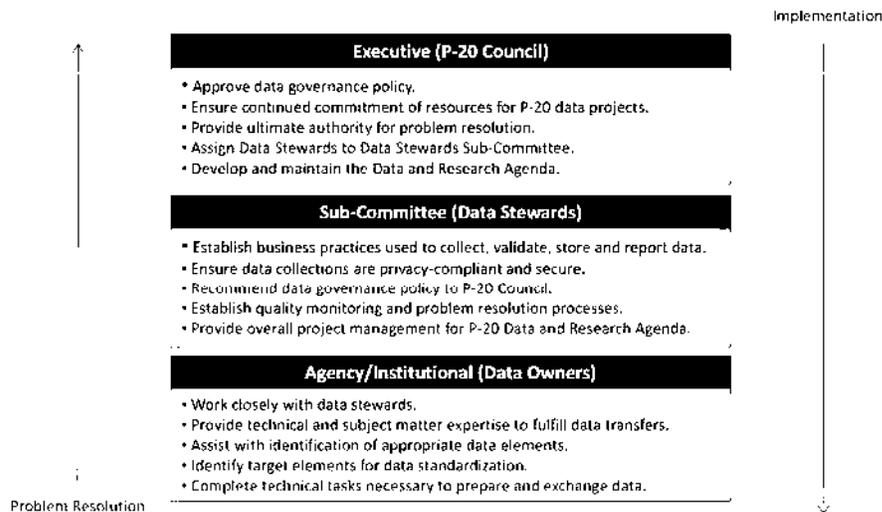

P-20 Council Role and Responsibilities

Role

The P-20 Council's role in interagency data governance is to provide leadership and establish and enforce policies related to interagency data governance. Policies will both secure data and facilitate its use in answering critical policy questions. The P-20 Council establishing procedures and tools to ensure the data is collected on time, is accurate, and stored, managed and reported in a secure efficient and effective manner that conforms to established file formats and the P-20 Council's data and research agenda. The P-20 Council approves policy pertinent to how data is defined, collected, quality-assured and reported. In addition the P-20 Council sets policy regarding access rights and security permissions for interagency data elements and reports. While a low level of time commitment is required a high level of personal engagement and organizational authority is required from this level.

Roles

Executive (P-20 Council)

- Approve data governance policy.
- Ensure continued commitment of resources for P-20 data projects.
- Provide ultimate authority for problem resolution.
- Assign Data Stewards to Data Stewards Sub-Committee.
- Develop and maintain the Data and Research Agenda.

Sub-Committee (Data Stewards)

- Establish business practices used to collect, validate, store and report data.
- Ensure data collections are privacy-compliant and secure.
- Recommend data governance policy to P-20 Council.
- Establish quality monitoring and problem resolution processes.
- Provide overall project management for P-20 Data and Research Agenda.

Agency/Institutional (Data Owners)

- Work closely with data stewards.
- Provide technical and subject matter expertise to fulfill data transfers.
- Assist with identification of appropriate data elements.
- Identify target elements for data standardization.
- Complete technical tasks necessary to prepare and exchange data.

Problem Resolution

Scope and Responsibility

The scope of data governance responsibilities for the P-20 Council applies to interagency data collected and stored for projects defined by the P-20 Council's research agenda. Responsibilities include:

- Preparing and maintaining the Data and Research Agenda.
- Appointing a Data Governance Coordinator.
- Establishing a Data Stewards Sub-Committee. The Data Governance Coordinator will serve as the Data Stewards Sub-Committee Chair. Assigning Data Stewards to ensure appropriate coverage for all critical agency or institutional data elements collected for P-20 Council Research Agenda projects.
- Establishing policy and collaborating on regulations for the proper use and management of data elements collected for Research Agenda data projects.
- Providing vision, direction and support for the Data Stewards Sub-Committee.
- Ensuring the continued commitment of member agency and institution resources, sufficient to accomplish P-20 Council projects.
- Serving as the ultimate authority for problem resolution including issues, questions and recommendations from the Data Stewards Sub-Committee.

Membership

Membership on the Delaware P-20 Council is specified in 14 Del. C. §107(b).

Data Governance Guiding Principles

In order to discharge data governance responsibilities P-20 Council members are accountable for:

- Ensuring that a true statewide focus is maintained rather than an individual agency view.
- Providing project sponsorship sufficient to ensure continuity and completion of projects that comprise the research agenda.
- Committing appropriate resources to support research agenda projects.

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- Advocating for regulations that both secure data and promote its use in order to answer critical policy questions.

Goals and Objectives

The goals of the P-20 Council with respect to data governance include:

- Safeguarding the availability and sustainability of interagency longitudinal education data.
- Reviewing the Data Governance Model periodically to ensure effectiveness
- Holding the Data Stewards Sub-Committee accountable for the completion of data and research agenda projects.
- Providing oversight for state and federal reporting implications of interagency datasets.
- Monitoring progress of research agenda projects utilizing tools such as project delivery plans.

Data Governance Policy Decision Making Process

- Each member will have one vote
- A majority vote of those in attendance constitutes approval of an action (Article IV, P-20 Council Bylaws).
- The Council members or designees present constitute a quorum for the approval of action or adoption of policy regarding data governance (Article IV, P-20 Council Bylaws).

Data Stewards Sub-Committee

Role

Each data element that is collected for a P-20 Council data project and that is reported externally to the federal government, state agency, media outlet or the community should be represented by a Data Steward or Data Manager.

Goals and Objectives

The goals and objectives of the Data Stewards Sub-Committee are listed below:

- To shape the development of a state education longitudinal data system that can inform policy questions that encompass pre- and post-K12 and workforce data.
- To serve as a bridge between member agencies' and institutions' individual data systems.

Data Stewards Sub-Committee Guiding Principles

In order to ensure P-20 Council data projects are completed, Data Stewards Sub-Committee members should:

- Ensure that a true statewide focus is maintained rather than an individual agency view.
- Provide project management sufficient to ensure the continuity of ongoing longitudinal data projects and completion of project deliverables that are part of the P-20 Data and Research Agenda.
- Have sufficient authority to commit the exchange of agency- or institution-specific data elements to accomplish Data and Research Agenda projects.

- Recommend policies, processes and/or regulations that both secure data and promote its use in order to answer critical policy questions.

Membership

The Data Stewards Sub-Committee will include:
- The P-20 Council's Data Governance Coordinator, who serves as the Data Stewards Sub-Committee Chair.
- A Data Stewards Sub-Committee Co-chair appointed or approved by the P-20 Council.
- Agency or institutional employees, assigned by P-20 Council members, to be responsible for the data element(s) contributed to P-20 data collections by their respective organizations.
- Agency or institutional Subject Matter Experts (SME) designated by P-20 Council members and accountable for assisting with analysis, quality and use of the data as well as documentation of appropriate metadata.

Data Stewards Sub-Committee Chair

- The Chair is accountable to the P-20 Council as the Data Governance Coordinator for the Council's Data and Research Agenda.
- The Chair will consult with the Co-chair to coordinate and convene sub-committee meetings.
- The Chair will develop project plans and track project deliverables in collaboration with members.
- The Chair is responsible for communicating to the P-20 Council regarding the progress and status of Data and Research Agenda projects.

Ad-hoc Subgroups

The Data Stewards Sub-Committee will have the option to create ad-hoc work groups of agency and institutional data owners and Subject Matter Experts (SME) from any of the participating organizations as needed.

Data Stewards Sub-Committee Scope and Responsibility

Members of the Data Stewards Sub-Committee are accountable for:

Overseeing completion of P-20 data projects specified by the P-20 Council Data and Research agenda.

- Reviewing and approving data deliverables (reports) as specified in P-20 Council data project plans.
- Identifying and recommending solutions for data discrepancies and issues and escalating data issues to the P-20 Council if consensus resolutions are not reached.
- Verifying that data elements are recorded and kept current a data dictionary and that the data collection and reporting calendar is maintained and kept current.
- Communicating source system changes and their impact on P-20 data project in progress.
- Identifying and engaging agency and institutional data owners and subject matter experts to ensure project deliverables are completed according to data project plans.

Decision Making Process

The P-20 Council is the final decision authority on issues escalated beyond the Data Stewards Sub-Committee. The decision-making process of the Data Stewards Sub-Committee will align with policy developed by the P-20 Council for sub-committee decision-making and dispute resolution at both the sub-committee and P-20 Council (executive) levels.

AllKids

2012 Officers

David C. Ring, Jr.
President

Michael D. Thomas
Vice President

Mervin B. Daugherty
Secretary

Deborah D. Wicks
Treasurer

Mission
The Mission of the DCSOA is to build the capacity of all public schools to meet the needs of all students, deliver quality teaching and learning experiences, provide relevant curriculum, assure effective use of resources, and maintain safe, healthy learning environments

Approach
DCSOA is a collation of top leaders working collaboratively with our constituents and key business, government, civic, philanthropic leaders to identify and remove roadblocks to achieving healthy communities and top performing students and schools.

December 1, 2011

Dr. Lillian M. Lowery
Secretary of Education
John G. Townsend Building
401 Federal Street, Suite 2
Dover, DE 19901

Dear Secretary Lowery:

Representing the Delaware Chief School Officers, this letter is written in support of your 2012 State Longitudinal Data Systems (SLDS) Grant application. It is our understanding that your grant application will be targeting three highly desirable areas. These areas include providing a mechanism for Local Education Agencies to create and capture assessment results directly into Delaware's statewide Student Information System (eSchoolPlus); providing tools, training and support to Local Education Agencies to make productive use of warehouse data for ad hoc analysis and reporting, and providing a systematic way for the Delaware Department of Education to consolidate a variety of legacy reporting systems into the new data warehouse.

We believe that the latest grant solicitation for SLDS gives the Department of Education the opportunity to enhance the implementation strategy for Delaware's Race to the Top warehouse and dashboard initiatives. As your partners in improving student outcomes, we believe that funding of the SLDS Grant application will enable Delaware to make great strides to meeting our objectives and goals.

We are excited about the prospects that this application presents and look forward to our continued partnership in these technology initiatives.

Sincerely,

(b)(6)

David C. Ring, Jr., Ed.D.
President
Delaware Chief School Officers' Association

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TERI QUINN GRAY, PH.D.
PRESIDENT

December 14, 2011

Dr. Lillian M. Lowery
Secretary of Education
401 Federal Street, Suite 2
Dover, DE 19901

Dear Madame Secretary:

The State Board of Education is pleased to support the goals and initiatives of the 2012 State Longitudinal Data Systems (SLDS) Grant application. The expansion of the SLDS will further the initiatives supported by the State Board toward greater management and use of data to make decisions for education throughout the state.

The SLDS Grant will enable Delaware to provide essential training for teachers and leaders in all schools to help with the implementation and effective use of the dashboard and data warehouse throughout the state. The development of a sustainable training program will ensure that these tools are used effectively and to further optimize their use for instructional decisions. As a part of our Race to the Top (RTTT) initiatives teachers and leaders in Delaware have been able to utilize a variety of data sources and receive guidance from data coaches around the best use of data to make important instructional change. As a result, the dashboard and SLDS has been asked to incorporate local formative and summative assessments to guide teachers and leaders in these decisions. The State Board fully supports expansion of the local data warehouse and dashboard to facilitate these requests, including the development of additional modules to our SIS and assistance to schools in automating a variety of paper/pencil assessments. To utilize all of these tools we must also be able to consolidate our legacy data into the new data warehouse, this grant would also provide resources needed to migrate operational reporting and processing activities to the new data warehouse in addition to providing resources needed to sustain the new systems.

The State Board has provided strong support for educational reform in Delaware that provides opportunities for success for students in Delaware. The State Board has been a strong supporter of the RTTT initiatives and development of stronger use of data and data governance. The State Board of Education writes this letter to strongly support the state's application for the 2012 SLDS Grant and looks forward to being an active partner in our continued success for educational reform in Delaware.

Sincerely,

(b)(6)

Teri Quinn Gray, Ph.D.
President
Delaware State Board of Education

Application: R372A120039

TERI QUINN GRAY, PH.D.
PRESIDENT

December 14, 2011

Dr. Lillian M. Lowery
Secretary of Education
401 Federal Street, Suite 2
Dover, DE 19901

Dear Madame Secretary:

As co-chairs of the Delaware P-20 Council, we are pleased to support the goals and initiatives of the 2012 State Longitudinal Data Systems (SLDS) Grant application. The expansion of the SLDS will further the initiatives supported by the council toward greater data governance and ability to make data based decisions on educational programs throughout the state.

The State Longitudinal Data System Grant will make available key training components to help with the implementation and effective use of the dashboard and data warehouse throughout the state. Through our RTTT initiatives teachers and leaders in Delaware have been able to utilize a variety of data sources and receive guidance from data coaches in how to best use this data to make important instructional change. As a result of this work, the dashboard and SLDS has been asked to incorporate local formative and summative assessments to guide teachers and leaders in these decisions. We fully support the addition of an assessment builder module for use by all schools in Delaware to assist in this goal. To utilize all of these tools we must also be able to consolidate our legacy data into the new data warehouse, this grant would provide resources needed to migrate operational reporting and processing activities to the new data warehouse in addition to providing resources needed to sustain the new systems.

The P-20 Council has a history of working together and supporting outcomes for data governance and improving educational opportunities throughout the state. In recent legislation, citing the need to work more thoroughly with data governance, the P-20 Council was expanded and authority was clarified to engage and facilitate greater cross-agency data sharing. The P-20 Council strongly supports the state's application for the 2012 SLDS Grant and looks forward to being an active partner in meeting those goals and objectives.

Sincerely,

(b)(6)

Teri Quinn Gray, Ph.D.   Lillian M. Lowery, Ed.D.
President   Secretary
Delaware State Board of Education   Department of Education

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Michael & Susan Dell
FOUNDATION

December 14, 2011

Dr. Lillian M. Lowery
Secretary of Education
John G. Townsend Building
401 Federal Street, Suite 2
Dover, DE 19901

Dear Secretary Lowery:

We are pleased to provide this letter in support of your 2012 State Longitudinal Data Systems (SLDS) Grant application. It is our understanding that your grant application targets three highly desirable areas. These areas include providing a mechanism for Local Education Agencies to create and capture assessment results directly into Delaware's statewide Student Information System (eSchoolPlus); providing tools, training and support to Local Education Agencies to make productive use of warehouse data for ad hoc analysis and reporting, and providing a systematic way for the Delaware Department of Education to consolidate a variety of legacy reporting systems into the new data warehouse.

We believe that the latest grant solicitation for SLDS gives the Department of Education the opportunity to enhance Delaware's groundbreaking and comprehensive Race to the Top initiatives to equip and empower educators to use data effectively and improve outcomes one student at a time. We admire and support your continued success and believe that funding of the SLDS Grant application will further enable Delaware educators to make great strides toward continuous improvement for students.

We are excited about the prospects that this application presents and look forward to our continued work together on these initiatives.

Sincerely,

(b)(6)

Lori Fey

Director, Policy Initiatives

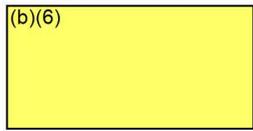Michael & Susan Dell Foundation

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Bruce E. Dacey, Ed. D.

Summary	- Seasoned professional who has been directly involved with education, computing and information technology (IT) for over 20 years - Progressively increasing responsibilities and experience, leading to management of a statewide pupil accounting system - Active participant in the DOE Race to the Top grant supporting implementation of the Longitudinal Data Systems section - Active participant in national education organizations including the National Center for Educational Statistics (NCES) and the Council of Chief State School Officers (CCSSO) - Engaged in national workgroups and task forces targeting educational topics such as Longitudinal Data Systems, FERPA, Data Quality, PK to 20 data systems, and served as Chair for the NCES Forum, LDS Task Force, and Data Cycle Action Team - Host, as an acknowledged expert in the field of statewide pupil accounting systems, school districts from around the country sharing our data system experience - Member of the SunGard Public Sector National Client Advisory Committee
Professional Experience	**Education Associate** **11/2000 - Present** **Technology Management & Design** **Delaware Department of Education**
	Representative of the department for the National Center of Educational Statistics Forum as well as the Education Information Management Advisory Consortium of the Council of Chief State School Officers. Lead the pupil accounting project for the Department. Manage information technology services that encompass training, helpdesk, contract support, and administrative activities. Responsible for the smooth operation of a statewide pupil accounting system to serve all of the school districts and all but one of the charter schools. Manage a six person team that specializes in helpdesk, training, database management, and reporting. Manage all aspects of the budgeting including invoices, payment vouchers, and contact with the vendor, and future planning. Assess emerging technologies and their applicability/impact in order to advise on strategic investments. Link to other peer institutions, as well as outside agencies, to leverage and maximize learning and partnership opportunities. For example, chair the Delaware Pupil Accounting Coordinators Committee, chair the Internal Data Users committee, and participate in the ACT/College Board Working Group.
	Adjunct Faculty, Wilmington College **1999 - 2008**
	- Management Information Systems - Emerging Technologies - Telecommunications
	Technology Specialist **11/1995 – 11/2000** **New Castle County Vocational Technical School District, Delaware**
	Provided technical support for computer hardware and software, as well as support in the network administration area. Successfully trained staff, as well as some students, in the Internet and Microsoft Office software packages. Provided training in the adult education program.
	Computer Technician **2/1987 -11/1995** **Delaware Department of Education**
	Provided training and support for school district clients. Provided training in instructional as well as administrative software packages. Provided computer and network support for the Department. Managed the non-public school data collection.
	Teacher **11/1983 – 2/1987** **Wallace Wallin School** **Colonial School District, Delaware**
	Special Education teacher for trainable mentally handicapped students. Created the first mainstreamed class in William Penn High School. Special Olympics coach.
	Teacher **7/1980 – 11/1983**

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	Au Clair School, Delaware
	Special Education teacher for Autistic students.
	Data Processing Control Clerk, ICI Americas Inc., Delaware 6/1973 – 1/1980
	Supported a variety of hardware, software, and operating systems.
Education	Ed. D. Education Leadership and Innovation, Wilmington College, May, 2003 M.A. Psychology, Washington College, May, 1987 B.A. Psychology, University of Delaware, May, 1982
Certifications	• Principal Elementary and Middle Schools • Microsoft Certified Trainer, MCT • Microsoft Certified Systems Engineer, MCSE • Standard Teacher of Exceptional Children: LD, SEM, MR, PH
Presentations	• National Center for Educational Statistics 2011 Winter MIS Conference: *State Data Systems for Student Success* • National Center for Educational Statistics 2010 Summer Data Conference: *Traveling Through Time: The Forum Guide to Longitudinal Data Systems* • National Center for Educational Statistics 2008 Summer Data Conference: *Longitudinal Data Systems: A preliminary look at issues, research, best practices and resources* • National Center for Educational Statistics 2007 Winter MIS Conference: *From LEA to EDEN: Delaware's Statewide Data System* • Sungard Pentamation National Clients: *eSchoolPLUS in Delaware* (clients from around the country visit Delaware to see our system) • DTI Technology Conference, October 2006: *eSchoolPLUS in Delaware Public Schools* • National Forum on Education Statistics Summer 2005: *Data Calendar Prototype* • National Center for Educational Statistics 2005 Winter MIS Conference: *Implementing a Statewide Pupil Accounting System in Delaware*; Co-presenter with Sungard Pentamation Director of Development
Publications	• *Forum Guide to Longitudinal Data Systems* 2010 • *Data Quality Curriculum:* Contributor, release date December 2006 • *Forum Guide to the Privacy of Student Information: A Resource for Schools:* Contributor, 2006 • Data Calendar Prototype Web site: Managed a team of federal, state, and local contributors to develop a final product • *An Investigation of the Use of the Delaware Public School's Pupil Accounting System,* 2003
Boards and Professional Associations	• Common Education Data Standards • Chair, National Forum on Education Statistics 2008-2009 • SunGard Public Sector National Client Advisory Committee 2007-2010 • Education Information Management Advisory Consortium, EIMAC • Chair, NCES Forum Longitudinal Data Systems Task Force • NCES Forum Data Quality Curriculum Task Force • NCES Forum Data Cycle Action Plan Team • NCES FERPA Toolkit Action Plan Team • EIMAC ACT/College Board Working Group • Chair, Delaware Department of Education Internal Data Users Group

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Paul R. Pond

HIGHLIGHTS

- I am currently the Information Resource Manager for the Delaware Department of Education. I am responsible for determining the technical direction of Information Technology within the Department and allocating while meeting the Department's goals and objectives.
- I have been working for the Delaware Department of Education for eight years working in the Technology Resources and Data Development workgroup as an engineer and the Information Security Officer. I have also worked as a Microsoft Certified Trainer in the Air Force and in the civilian sector as well as being the Superintendent of Technical Education in the Air Force for 8 years. I was responsible for the development and implementation of lesson plans, student handbooks, visual aids, measurement programs, and all related administrative and student scheduling support.
- I currently have a Bachelor's Degree in Computer and Network Security and an Associate's Degree in information systems from Wilmington University.
- I have been teaching Information Resource Management courses and Computer Security courses at Wilmington University for 5 years and have over 16 years of teaching experience.
- I have 30 years of experience working with mainframes, mainframe applications, servers, and PCs including experience with many Microsoft products such as Forefront Packages, Exchange, SQL Server, Sharepoint, Proxy Server, ISA Server, Microsoft Office, Systems Management Server and all Microsoft Operating Systems since MS-DOS 1.0.

PROFESSIONAL EXPERIENCE

SUMMARY

- 22 years experience and team leader and supervisor
- 19 years experience in department, office, and team management
- 23 years experience working with and securing sensitive and classified data
- 18 years experience as network engineer
- 16 years experience as a technical trainer
- 13 years experience in mainframe operations, maintenance, and application usage
- 28 years experience as a computer technician
- 30 years experience in the computer industry

LEADERSHIP, MANAGEMENT AND SUPERVISION

- Provided leadership, management and supervision to Delaware Department of Education technical personnel in conjunction with the plans and vision of the Director of the Technical Resources and Data Development group.
- Led team responsible for the migration of network supporting all school districts in the state from Windows 2003 Active Directory Forest to Windows 2008 Active Directory Forest. Migration increased network flexibility and functionality allowing for the implementation of features previously unavailable.
- Led research team that diagnosed a network error that had been affecting users state-wide for three years. Went on to develop, test and implement a solution that simplified the network architecture, reduced administrative and support costs, and corrected the problem. All completed with 0% downtime.

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- Supervised 25 administrators responsible for the operation and maintenance of an $18M network consisting of over 90,000 users and 66,000 computers supporting ACC, and the ACC NOSC, and 17 NCCs.
- Managed 24 hour data center operations and up to 36 personnel for deployed locations in Kuwait and the United Arab Emirates. Provided technical support to users and data systems in the harshest environments.
- Supervised 8 operators in providing sensitive classified intelligence communications, network support and computer operations support for United States Forces in the Republic of Korea.
- Supervised 10 instructors responsible for the design, development, and implementation of new courses to include lesson plans, student handbooks, visual aids, measurement programs, and all administrative and scheduling support for LAN maintenance, Novell System Administration, and the Network Design. Provided training to administrators, maintainers, and users on the maintenance and concepts of networks, networking, network administration, system design, and hardware configurations.

NETWORK ENGINEER
- Selected by Delaware Department of Education to evaluate, recommend, purchase, and implement High Availability package for critical servers. Evaluated several packages and determined the best one for department needs. Solution featured in e-Week magazine.
- Developed and Implemented online document storage and retrieval system for Delaware Department of Education using Sharepoint technologies. Allows for central storage, control, and inventory of documents.
- Setup, configured, maintained, and troubleshot Windows servers, Exchange servers, and SQL servers for the Delaware Department of Education. Assisted in network redesigns to maximize bandwidth and equipment utilization.
- Performed network infrastructure upgrade to replace aging equipment for Delaware Division of Accounting. Performed migration from Banyan server to Windows to include all data migration, profile migration, user configuration, and security set up for new network.
- Performed migration from Banyan server to Windows to include all data migration, profile migration, user configuration, and security set up for new network. Implemented ScriptLogic solution for mapping drives and printers to all personnel and computers in Delaware Legislative Hall.
- Performed network infrastructure upgrade to replace old and failing equipment for the Delaware Office of the Treasurer. Performed migration from Banyan server to Windows to include all data migration, profile migration, user configuration, and security set up for new network.
- Recognized as expert in Microsoft Active Directory. Personally selected to diagnose and repair devastating Active Directory errors that plagued a campus and resulting in inability to access network resources. Wrote scripts to repair permissions, manually cleaned and repaired active directory, and restored connectivity for over 600 users.
- Technical design expert, subject matter expert, and head trainer for network infrastructure project that includes the deployment of Microsoft Systems Management Server 2.0, and the implementation of Windows 2000 and Active Directory across a Wide Area Network with 90,000 users and 66,000 computers in 3 countries.
- Spearheaded major upgrade for company network infrastructure. Identified numerous performance shortfalls. Developed strategic plan to modernize core services to meet growing requirements. Implemented first phase that resulted in 20 times higher data rate for company-wide network applications.

TECHNICAL TRAINER
- Performed Windows server Systems Administration training, A+ training, Network+ training, Security+, Microsoft Word training to approximately 100 personnel in state agencies and private corporations as well as students at Wilmington University.

- Provided training in the maintenance and concepts of networks, network administration, system design, and hardware configuration, computer skills, concepts, TCP/IP, SMS, MS Proxy, Windows NT, Windows 2000, troubleshooting procedures, cable building, and Novell NetWare System Administration. Provided this training to corporate network administrators, maintainers, and users. Oversaw new technological evaluations for incorporation into existing training programs.
- Personally taught over 1600 network professionals throughout the Air Force using a combination of Microsoft Curriculum and self-written courses, saving nearly 4 million dollars in training costs over 7-year period.

COMPUTER TECHNICIAN

- Developed a unique desktop security program for use in tri-state convenience stores. Program allowed for administrative communications and flexibility while locking down critical system functions from accidental misconfiguration by employees. Ensured the integrity of desktop and critical application software as well as recoverability of systems in the event of failure.
- Dynamically led the deployment of Air Force wide countermeasures for the malicious "ILOVEYOU" computer virus. Superbly protected 60,000 network devices by setting up comprehensive detection procedures. Rapidly restored 100% of corporate information services following the on wide computer virus attack. Skillfully built and deployed a network-based anti-virus solution to efficiently identify and eliminate threats to critical data. Guaranteed protection of company network from virus attack.
- Enhanced the flow of work order information from the Job Control Center to the technicians in the field. Implemented comprehensive database to track every trouble call and requested enhancement for base. Completed a record 311 trouble calls in 90 days.

EDUCATION AND CERTIFICATIONS

- Associate's Degree, Information Systems Technology – Community College of the Air Force
- Bachelor's Degree, Computer and Network Security – Wilmington College
- CompTIA A+ Technician – 23 years experience troubleshooting and building PCs and servers
- CompTIA Network+ - 24 years experience networking mainframes, servers, and personal computers
- CompTIA Security+ - 13 years experience working in secure datacenters on classified networks
- MCP – Microsoft Proxy Server, Microsoft Systems Management Server, TCP/IP, Active Directory
- MCSA – Windows 2000, Windows 2003, Windows Messaging
- MCSE – Windows NT 4.0, Windows 2000, Windows 2003
- MCT – Over 8 years experience teaching as an MCT, over 14 years total network instruction

QI "Tommy" TAO

EDUCATION

Ph.D. in statistics
August 1992
Department of Mathematical Sciences, University of Delaware, Newark, DE 19716

Master of Science in statistics
December 1990
Dept. of Mathematical Sciences, University of Delaware, Newark, DE 19716

Master of Science in Geo-mathematics
December 1982
The Graduate School, Univ. of Sci. & Tech. of China, Beijing, P. R. China

Bachelor of Science in Mathematics
January 1977
Dept. of Mathematics, Jilin University, Changchun, Jilin, P. R. China

Conference Attendance
1993 - Present
　Attended numerous national and international conferences and workshops in the areas of educational data, data warehouse, database management, web application development, reporting

Computer Software Training
1996 - Present
　Attended numerous computer software trainings including ERWin data modeling, Cognos data warehousing tools, ProClarity data warehousing tools, Crystal Reporting tools, Microsoft data warehousing tools, Visual Studio and ASP and ASP.Net web development

PROFESSIONAL EXPERIENCE

Education Associate
January 1996 – Present, Delaware Department of Education
Data Analysis & Reporting Team (1996 – 1998),
Technology Management and Data Design Work Group (1999 – 2009),
Technology Resources and Data Development Work Group (2009 – present)

Main duties and accomplishments include:

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- Migrated (re-write) DELSIS (Delaware Student Information System) from VAX computer to browser-based web application (1999), and continued enhancement and management till present time
- Responsible for all 13 years of DSTP (Delaware Student Testing Program) data processing, quality control, and management (1998 till present)
- Single-handily designed, developed and managed three versions of DSTP-OR (DSTP On-line Reports) websites, both for password-restricted access and public access, using technologies ranged from SQL Server 7.0, 2000 and 2005, Reporting Service 2000 and 2005, Analysis Services 2000 and 2005, classic-ASP, ASP.Net 2.0 and ASP.Net 3.5
- Designed and developed the DCAS cube for state-, district- and school-level reporting and data analysis related the new state testing system DCAS
- Designed and developed the public-facing reporting website for dissemination of the state-, district-, and school-level DCAS summary reports for the general public
- Designed and developed ISDU – Integrated Student Data Updating system since 2002. It is the de facto data audit and quality control engine for all student-level data for DOE. It runs daily to take eSchool Plus data as input, perform data audit checking, send data errors to the district data contacts, and update student demographic, enrollment and categorical data elements (special-Ed, LEP, Title 1, etc.) in the DOE Student Master database – DELSIS
- Designed and developed the DOE Data marts with 30+ reporting cubes since the year of 2000, first using SQL Server 7.0 OLAP service, Analysis Service 2000, then Cognos Architect/Transformer, and now Analysis Service 2005 and 2008R2. Since 2000, played the role as the main data warehouse architect and manager for the DOE reporting cubes. Tasks ranged from planning, design standards, new data marts and cubes design, routine data ETL and cube updates, data marts backup, user training, and cube-based report query development, modification and management.
- Designed and oversaw the development of DWPR – DOE Data Warehouse Public Reports system. DWPR is a metadata management system which support several cube-based projects and various web applications for users or projects to access various DOE reporting cubes
- Managed Diploma Ordering database for the past 15+ years. The Diploma Ordering data is the foundation for collecting high school graduation data, which in turn is the foundation for generating graduation rate reports. Tasks in this project ranges from initializing yearly diploma data, setup and maintain website for high schools to update and submit diploma ordering data, generate diploma data listings to send to the printing vendor, final data quality control, and loading final data into Diploma cube
- Implemented and managed the smart search engine NameSearch® (by Intelligent Search, Inc.) in DELSIS database and websites since 2003. This results a significant data quality improvement in Delaware's unique student Identification number system
- Provided data support for the School Profile project from 1997 to 2004 for about 75% of the data

HONOR

- Selected as a fellow of the National Center for Education Statistics (NCES), and attended the Cooperative System Fellows Program at NCES in May 1996.
- Fellowship awarded for spring 1989 at the University of Delaware.

PUBLICATIONS AND PRESENTATIONS

1) Tao, Qi and Soltys, Thomas V. (1994). DELSIS: System 1032 in the "First State's" Public Schools. Presented at the *1994 System 1032 Symposium*, Boston, Massachusetts.
2) LaRiccia, V.N., Schuenemeyer, J.H. and Tao, Q. (1992). Asymptotically Efficient Parametric Estimators for the Generalized Tukey Lambda distribution. Submitted to *Technometrics*.
3) Tao, Qi (1985). Exploration History Analysis in Quantitative Evaluation of Petroleum Resources. *GEOLOGY ABROAD*, No. 1, 1985.
4) Tao, Qi (1984). Transformation of Empirical Distribution - A Method for Petroleum Reserve Evaluation. *OIL AND GAS GEOLOGY*, Vol.5, No.1, 1984.
5) Tao, Qi (1983). A Review of Quantitative Methods for Petroleum Resource Evaluation. *GEOLOGY ABROAD*, No. 3, 1983.

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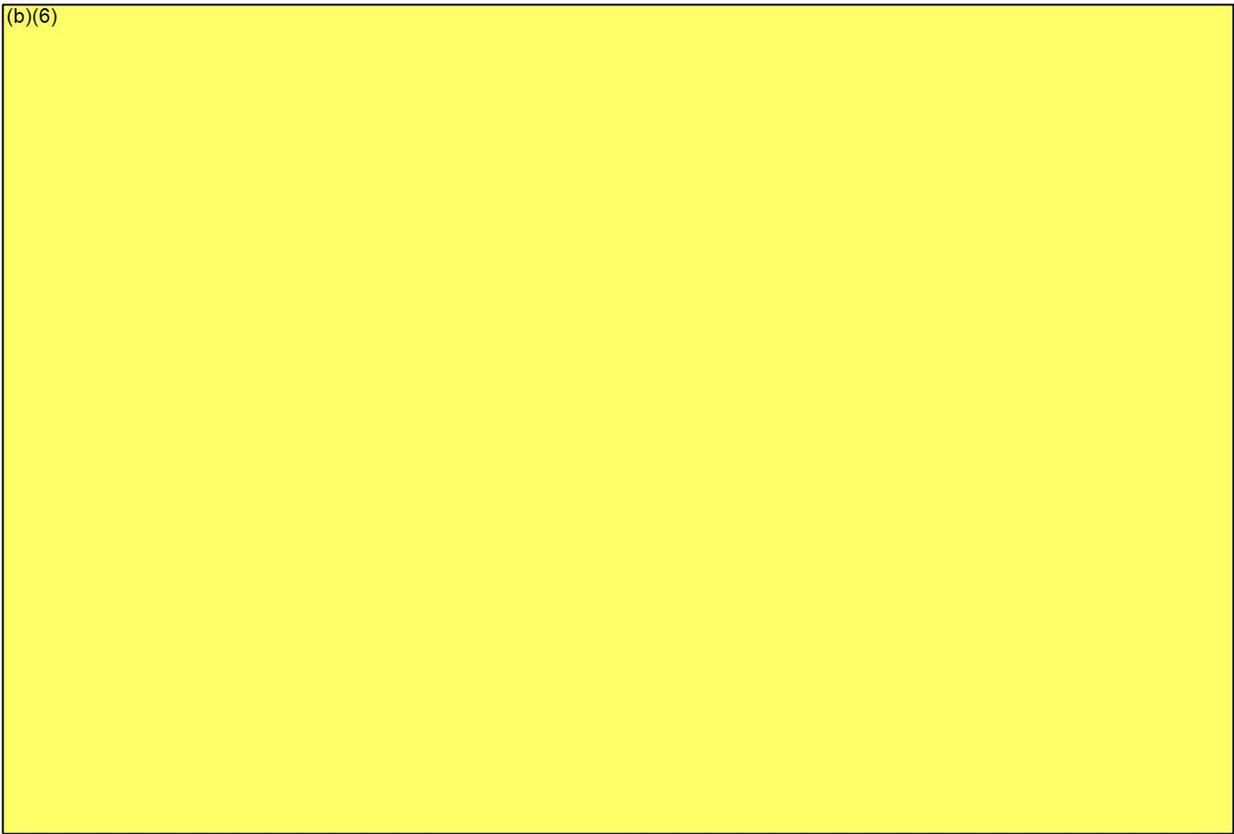
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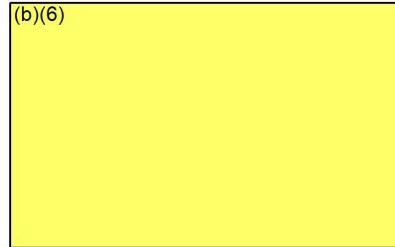
Robert E. Czeizinger

EDUCATION

Delaware State University, Dover, Delaware
Bachelor of Science Degree in Business Administration

Wilmington University, Dover, Delaware
Masters of Science Degree in Public Administration

Winner of the Richard Campbell Ponsell Award from Wilmington University 1999
Member of Sigma Beta Delta, International Honor Society for Business, Management, and Administration

PROFESSIONAL EXPERIENCE

Director of Technology, Department of Education, Dover, Delaware, February 2007 to Present

Supervise the Technology Management and Design Workgroup at the Department of Education. Manage the Department's efforts in Educational Data Collection activities, development of custom applications, support of statewide Pupil Accounting system, state and federal educational reporting, and information technology infrastructure. Support the Departments efforts in improving education in Delaware by continued support and development in our enterprise longitudinal data reporting capabilities. Ensure that the Departments data reporting efforts deliver key information to stakeholders in order to support continuous school improvement.

Information Resource Manager, Department of Education, Dover, Delaware, October 1994 to February 2007

Assess and coordinate the administrative and educational telecommunications and information systems needs of the Department of Education. Establish the technology infrastructure standards for the Department to include hardware, software, relational database, and application development standards for the Department. Provide technical assistance and support to local school districts for implementation of the Pupil Accounting System. Serve as the Information Security Officer for DOE and coordinate release of information for computer-generated responses to requests under the Freedom of Information Act. Implement and manage the Department's Microsoft based local area network and connection to the Internet. Provide design and project management coordination for development of database applications and management systems for education. Maintain systems developed for data collections activities such as the School Profiles system, DSTP Reporting system, and Pupil Accounting System. Setup, coordinate, and maintain the Department's WEB site to provide information about education, the Department, and schools in Delaware.

Manager of Computer and Application Support, Department of Health and Social Services, Division of Public Health, Dover, Delaware, August 1988 to October 1994

Manager of the Information Management Section for the Division of Public Health. My duties included over site of section staff engaged in Network Planning, Network Administration, Billing for Clinic Services, Computer Training, new Systems Development, Systems Maintenance, and Records, Forms, & Printing Management. I analyzed the Division's information needs and organizational structure in order to develop, administer and coordinate the Division's data management practices which included compilation of the data dictionary, and coordination of data and computer policy. Through analysis of the Division's informational systems needs, programmatic operations and accountabilities, I would evaluate, study and recommend application development projects which met both Department and State criteria for compatibility of data for sharing of information across various mini/micro and mainframe computer platforms. I analyzed program goals to coordinate development of the Division's Strategic Plan and necessary yearly Budget submissions.

Fiscal Administrative Officer, Department of Health and Social Services, Division of Public Health, Dover, Delaware, February 1987 to July 1989

Director of the fiscal services program and Information Systems of the Division of Public Health. I was responsible for development of fiscal and administrative guidelines in order to set priorities and initiate fiscal and administrative policy. I analyzed the Division's information needs in order to develop the Division's Fiscal Information System and Personnel information systems, both of which are compiled dBase applications which allowed me to produce monthly personnel and fiscal reports and "up-to-the-minute" ad-hoc reports for analysis and tracking of the Division's state budget and 16 federal grant budgets for a combined operating budget in excess of $30,000,000. I signed and approved all fiscal documents and PAR-3 forms submissions to the Department for processing. I was also responsible for auditing revenue collections for Public Health client services performed statewide. Based on the Division's communication needs I have recommended, installed and coordinated the development of three local area networks (Banyan Vines) which have been connected into the Departments wide area network through leased lines and dial-up telephone lines. I also served as the Divisions Inventory Control Officer and Fleet Administrator for equipment and vehicles located state-wide at sixteen locations. I prepared the annual state budget according to guidelines.

Senior Accountant, Department of Natural Resources & Environmental Control, Division of Water Resources, Dover, Delaware, January 1986 to January 1987

Supervisor of the Division of Water Resources Fiscal Branch. Responsibilities included: Reading, interpreting and applying Federal Grant Program rules and regulations along with state law to assure fiscal conformance by the Division to Federal and State Fiscal guidelines. I supervised Division of Water Resources and Division of Air and Waste Management accounting personnel. I recommended fiscal policy to Division Directors which includes initiation and development of said policy. I was also responsible for development of technical reports concerning statistical analysis of grant and state budgets. I developed an information system to keep both grant managers and other staff up to date on the financial aspects of their programs.

Accountant I, Department of Services for Children Youth and Their Families, Division of Administrative Support, Wilmington, Delaware, October 1984 to December 1985

Assistant to the Department Financial Manager for coordinating the financial matters of the Department. Responsibilities: Review of all Department contracts, preparation of Federal Grant applications, review of proposals received for the Grants and Contracts process, establishment and maintenance of Federal line of credit necessary to receive Federal Grant funding. I also attended six weeks of **Delaware Financial Management System "Train the Trainers"** training in order to train members of the Department in all aspects of DFMS. I trained over 20 Department personnel in the use and methodology of DFMS. I also directly supervised client payment services which included foster home payments, group home payments, special foster care payments and adoption subsidies. I developed a system to track expenditures and encumbrances for the Division.

Assistant Accountant, Family Court of the State of Delaware, Wilmington, Delaware, September 1983 to October 1984

I established systems, procedures and methods for cost gathering, records keeping and account reporting. I prepared all types of fiscal documents and payroll documents including DCR's, PAR-3s, and ACRs; in conjunction with this, I insured that encumbrances and disbursements were properly charged to applicable cost centers. I was responsible for maintaining and understanding all accounting for special funds. I wrote procedures for various forms and processes used in the accounting department of Family Court. I reviewed and corrected all documents including monthly reports before submission to the Director of Fiscal Services. I answered all questions on office policy and procedures or routed them to the Director. I checked on the work progress of all staff to ensure completion of assignments in a timely manner. I developed a list of task assignments in conjunction with the Fiscal Director and then assigned them to specific personnel after analyzing the office work flow. I maintained an overview of the requirements of the office and aided the Director with long range planning.

Operations Manager, Ames Department Store, Chestertown, Maryland, August 1979 to September 1983

Attended school in Syracuse, New York, for training in store accounting operations. As First Assistant, my duties were to plan, organize, direct and control employees to accomplish daily requirements. Through control planning and analysis of operations, I met objectives needed in each department to achieve goals. I fixed and assigned responsibilities on the sales floor. I audited daily accounts for the store which involved daily sales. I also was completely responsible for the accounts receivable operation of the store, which included month end reports, billing and daily upkeep of the ledger, and subsidiary ledgers. I approved and authorized payrolls in strict accordance to the authorized budget amounts. I directly assisted accounting personnel with problem solving when needed. I also tracked daily deposits and made certain that collected funds were deposited to the proper account.

Manager, El-Sombrero Restaurant, Dover, Delaware, August 1975 to September 1983

Managed a full service restaurant specializing in Mexican cuisine. I prepared budgets for payroll, purchasing supplies, and payment of lease and utilities. I supervised staff engaged in food preparation, serving, and cleanup. I was responsible for preparation of weekly payroll and deposit of daily receipts. I generated monthly reports to compare expenditures against operating budgets.

Application: R372A120039

SEAN ANTHONY

SENIOR-LEVEL DATA ANALYSIS AND MANAGEMENT

Data Analysis and Management ◇ Oracle and SQL Server Programming ◇ SAS Programming ◇ Relational Database Management ◇ Marketing Campaign Operations, Execution and Tracking ◇ MIS Report Development/Maintenance ◇ Business Analysis ◇ Financial Analysis/P&L Management

PROFESSIONAL PROFILE

➤ Experienced data analyst with 12 years of experience in report development, data management, and programming in operational and strategic areas of the credit card banking industry, federal government, and education sectors.

➤ Strong data miner and manager with a focus on SQL programming, SAS programming, relational database management, and MIS report development and maintenance.

➤ Results-oriented achiever with a proven track record for identifying and exploiting efficiency gains in operational and analytical processes.

PROFESSIONAL EXPERIENCE

Delaware Department of Education (October 2008 – Present)

Education Associate-Reporting

➤ Serve as project coordinator and technical lead for the Education Insight Data Warehouse project.

➤ Serve as the primary contact for school districts and charter schools regarding all issues surrounding Cognos ReportNet, the state's reporting system for pupil accounting information

➤ Develop and maintain automated Reporting templates of various reporting areas of student reporting enabling school districts and charter schools to execute reports and monitor performance autonomously.

➤ Maintain user security for all DOE maintained Public Reports. Provide the infrastructure and training to school districts and charters to enable them to maintain security. Maintain the framework for Cognos that defines the relationships of the tables included in eSchoolPLUS.

JP Morgan Chase Card Services (July 2007 – October 2008)

Marketing Analysis Manager

➤ Provided financial reporting, analysis, forecasting and analytical data services in support of Revenue Services Marketing efforts

➤ Provide daily and monthly MIS reporting detailing sales performance and product retention performance for Revenue Services products across all inbound sales channels

➤ Developed and maintained various profitability and net present value financial models to measure, predict, and compare the success/failure of various marketing efforts across multiple sales channels

➤ Responsible for the maintenance and development of monthly processes to integrate multiple data sources from disparate locations to facilitate easier monthly reporting and analysis.

Christina School District (July 2004 – July 2007)

Technology Services Data Manager

➤ Provided primary reporting, analytical, and operational services in support of all district staff for the purposes of increasing student achievement, optimizing operational efficiency, and compliance with state and federal reporting obligations

➤ Provided all aspects of data management, reporting, analysis and forecasting for the district's unit count and highly qualified teacher processing. Developed and maintained customized data management processes to automatically maintain unit count and HQT screens within eschool plus on a daily basis. Developed and maintained daily customized, automated reporting MIS packages in support of unit count and HQT processes

➤ Assisted in the conversion of the district's outsourced student information system from a legacy mainframe system into a centralized, web-based system.

> Developed and administered technical training sessions to all district user groups to familiarize user groups with customized reporting packages and district utilized software tools.
> Provided automated MIS and operational data support for third party software products utilized by the district. Direct and develop processes to move data between applications.
> Managed a staff of four data analysts responsible for user assistance, report development and maintenance, and operational processing of student information systems events.

Bank One Card Services (December 2002 – June 2004)

Assistant Vice President Marketing Operations: First Values Quality and Analytics and List Management

> Provided business analysis and programming expertise in support of portfolio marketing list generation efforts.
> Developed and updated a monthly dashboard MIS reporting package summarizing departmental performance for First Values Marketing Operations
> Produced automated, daily and monthly MIS reporting and analytics for enrollments, cancellations, and refunds of third party products

Cross Country Bank (November 1999 – November 2002)

Assistant Vice President of Credit Risk Management (October 2001 – November 2002)

> Managed and directed all aspects of Account Management upgrade programs as directed by Credit Risk Management
> Developed, maintained, and validated account selection credit risk criteria for upgrade programs including pre-approved credit line increase offers, Gold Upgrades, Cross-Sell programs, and other additional marketing programs
> Executed and directed List Management processes to select accounts eligible for upgrade programs ensuring the proper established criteria is applied. Created and maintained P&L statements and automated performance tracking programs to monitor upgrade program account performance and profitability and recommend credit risk criteria changes.
> Developed a customized historical solicitation SAS dataset that houses all previous marketing solicitation files and all demographics associated with accounts to monitor behavior characteristics of responders, non-responders, approved upgrades, and declined upgrades.
> Managed a staff of three

Financial Data Manager/Financial Analysis (April 2000 – October 2001)

> Managed and directed the Financial Analysis MIS unit
> Primary support in the development and maintenance of a budgeting application using Hyperion Essbase
> Developed and maintained a variety of cardholder information databases on Microsoft Access or as SAS datasets utilizing input directly compiled from the company's AS400 mainframe system.
> Developed, managed, and delegated daily, monthly, and ad-hoc MIS reports

MIS Analyst (November 1999– April 2000)

> Provided daily and monthly MIS support of Financial Analysis
> Produced and maintained profitability forecasting models for Marketing products

U.S. Bureau of the Census (September 1997 – September 1999)

Economist

> Initiated, tested, and implemented automated, interactive processes for the Economic Census
> Assisted in the development of publication specifications
> Processed and analyzed Economic Census data
> Maintained communication with large companies to offer assistance to ensure accurate and timely reporting. Responded to customers' data inquiries, comments, and needs

Education

University of North Carolina at Asheville

Bachelor of Arts in Economics – May 1997, Distinction in Economics

Application: R372A120039

JEFFERY L. FLEMING

SIGNIFICANT RESPONSIBILITIES

Manage and lead application development and support activities in the Technology Management & Design Group. The Education Associate, Data Management will:

- Provides high-quality support to districts and schools via DOE web applications
- Provides direction and leadership for the application development sub-group
- Provides project strategies to ensure development projects meet requirements and goals
- Continuously acquires and incorporates leading-edge technologies into DOE web applications to enhance district and school user's web experience
- Coordinates development and deployment of new applications that meets user requirements
- Manages the enhancement and maintenance efforts for applications currently in production
- Sets priorities and manages the interaction(s) between developers, program managers, and users within the DOE and across the state
- Maintains application development standards and policy which meets the needs of the DOE, Districts, Schools and other State agencies
- Works with District Information Security Officers (ISOs) across the state to ensure the all DOE web applications are functioning properly and are accessible through the Single Sign-On User management System
- Takes steps to enhance communications across Technology Management and Design sub-groups
- Supports other work groups members in the management and program enhancement of DOE data systems
- Serves as Delaware's Consolidated State Performance Report (CSPR), Education Data Exchange Network (EDEN/EdFacts), and Common Core of Data (CCD) Coordinator
- Manages and lead Delaware's Federal Education reporting. Coordinate and work with Data Managers across DOE to ensure timely and accurate data submissions to USDOE
- Maintains and improve Delaware's Interactive Teacher Recruitment Site (TeachDelaware)
- Provides periodic training district HR Directors. Revises and publishes user's guide. Continues to participate in training sessions and teacher recruitment events at universities and school districts
- Provides technical assistance to other groups within the Department and to local school districts in support of data driven decision-making

EDUCATION

- Master of Science – Public Administration – Wilmington College - 1999

- Bachelor of Science – Management & Computer Studies - University of Maryland - 1995

- Associate of Applied Science - Weather Technology - Community College of the Air Force - 1988

- Associate of Applied Science - Airframe and Powerplant - Georgia Military College - 1986

Acronym List

	Appendix D - Acronym List
3DAP	Delaware Data-Driven Analysis Program
APQC	American Productivity and Quality Center
CMM	Capability Maturity Model
CMMI	Capability Maturity Model Integration
CoBiT	Control Objectives for Information and Related Technology
CTE	Career/Technical Education
DBA	Database Administrator
DCAS	Delaware Comprehensive Assessment System
DDOE	Delaware Department of Education
EdFi	EdFi
ELA	English Language Arts
eSchool	Sungard/Pentamation's Student Information System
ESL	English as a Second Language
ESP	ESP Solutions Group, Inc.
ETL	Extract, Transform, and Load
FERPA	Family Educational Rights and Privacy Act
FTE	Full-Time Equivalency
iMart	OtisEd's Data Management Framework
Insight Plus	Short Title for 'Expanding Delaware's Insight Data Warehouse Reporting and Instructional Improvement Capabilities '
IT	Information Technology
LAB	Delaware Local Assessment Builder
LEA	Local Education Agency
LM	Legacy Migration
NCES	National Center for Education Statistics
PBDMI	Performance Based Data Management Initiative
PDMS	Professional Development Management System
PIIE	Process Improvement and Innovation in Education
PMI	Project Management Institute
RIA	Research in Action, Inc.
SEA	State Education Agency
SLDS	Statewide Longitudinal Data System
USED	United States Education Department

Application: R372A120039

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

OMB Number: 1894-0008
Expiration Date: 02/28/2011

Name of Institution/Organization

Delaware Department of Education

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

SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	0.00	0.00	0.00			0.00
2. Fringe Benefits	0.00	0.00	0.00			0.00
3. Travel	8,400.00	10,800.00	10,800.00			30,000.00
4. Equipment	0.00	0.00	0.00			0.00
5. Supplies	360,000.00	290,000.00	290,000.00			940,000.00
6. Contractual	1,241,250.00	1,335,250.00	756,250.00			3,332,750.00
7. Construction	0.00	0.00	0.00			0.00
8. Other	0.00	0.00	0.00			0.00
9. Total Direct Costs (lines 1-8)	1,609,650.00	1,636,050.00	1,057,050.00			4,302,750.00
10. Indirect Costs*	0.00	0.00	0.00			0.00
11. Training Stipends	217,000.00	54,250.00	54,250.00			325,500.00
12. Total Costs (lines 9-11)	1,826,650.00	1,690,300.00	1,111,300.00			4,628,250.00

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

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

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

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

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

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

The Indirect Cost Rate is [   ] %.

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

☐ Is included in your approved Indirect Cost Rate Agreement? or, ☐ Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is [   ] %.

ED Form No. 524

Name of Institution/Organization

Delaware Department of Education

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

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

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

SECTION C - BUDGET NARRATIVE (see instructions)

ED Form No. 524

Application: R372A120039

BUDGET NARRATIVE

(a) INTRODUCTION

Summary Project Budget
Delaware is requesting a total of $4,628,250 over three project years to complete the four outcomes we described in our project narrative. The LDS grant amounts are summarized in the table below (see Form ED 524 Section C for the Spreadsheet with full detail).

	Category	Year 1	Year 2	Year 3	3-Year Total
	LDS PROJECT (COMBINED OUTCOMES) BUDGET				
1	Project Management (PM)	$221,000	$221,000	$221,000	$663,000
2	Local Assessment Builder (LAB)	$1,016,250	$891,250	$366,250	$2,273,750
3	Delaware Data Driven Analysis Program (3DAP)	$339,400	$328,050	$274,050	$941,500
4	Legacy Migration (LM)	$250,000	$250,000	$250,000	$750,000
	Total Costs (All Outcomes)	$1,826,650	$1,690,300	$1,111,300	$4,628,250

Although the requested funding has been segregated according to the four outcomes associated with this grant request, It should be noted that Delaware plans to hire a Project Manager who will split their time between two of our outcomes, Local Assessment Builder and Delaware Data Driven Analysis Program. Also note that we are not requesting funds for equipment of normal supplies associated with staffing of these projects.

General Information

Like with many other states, Delaware has gone through a period of financial turmoil. For this reason, we are not currently adding new positions and instead are hiring consultants and contractors to provide the additional services and work needed to support new programs. When these projects are complete it is our sincere belief that we will be able to utilize current staff to maintain and support the work under projects 2 to 4. However, we do have funds for other costs needed to support the consultants and contractors. For this reason you will not see any request for supplies and equipment in our LDS grant request.

(a) Deliverable 1: Project Management (PM)

Delaware is requesting $663,000 for a Project Manager and travel to SLDS grant meetings. The costs are broken down as follows:

	Category	Year 1	Year 2	Year 3	3-Year Total
	1. Project Management (PM)				
1	Personnel	$0	$0	$0	$0
2	Fringe Benefits	$0	$0	$0	$0
3	Travel	$6,000	$6,000	$6,000	$18,000
4	Equipment	$0	$0	$0	$0
5	Supplies	$0	$0	$0	$0
6	Contractual	$215,000	$215,000	$215,000	$645,000
7	Construction	$0	$0	$0	$0
8	Other	$0	$0	$0	$0
9	Total Direct Costs (Lines 1-8)	$221,000	$221,000	$221,000	$663,000
10	Indirect Costs	$0	$0	$0	$0
11	Training Stipends	$0	$0	$0	$0
12	Total Costs (Lines 9-11)	$221,000	$221,000	$221,000	$663,000

Key Personnel for DDOE include the Executive Sponsor, Robert Czeizinger, who will devote 35% of his time to this project. He will have overall responsibility for the success of the overall Insight Plus as each of its components must coordinate with the other two, DDOE, the schools/districts, and the user community in general. The cost to the grant will be $0 annually as Mr. Czeizinger's salary is state supported. Additionally, DDOE will assign its experienced Project Manager, Sean Anthony, to lead project activities. Mr. Anthony is completing his tenure as Project Coordinator for the Insight Data Warehouse and Dashboard Projects in April 2012. He will be directly responsible for the day-to-day planning and management of all aspects of the project. He will be full time in all three years. The cost to the grant will be $0 annually since his salary is also state supported.

Although we can depend on oversight from Mr. Czeizinger and management and planning from Mr. Anthony, it is also imperative that Delaware hire a full-time Technical Project Manager to coordinate the work of the project teams. This full-time Technical Project Manager will be recruited and hired as soon as Delaware receives word that our grant application is successful. Although the Technical Project Manager will be responsible for two of the major outcomes, we are showing the need here as Outcome Number 1.

A. **Contractual:**

A Technical Project Manager, PMI-certified or equivalent, will be hired by DDOE to support both the Local Assessment Builder outcome and the Delaware Data Driven Analysis Program outcome. The project manager will monitor and evaluate the processes, procedures, and deliverables from vendors to ensure that they are following the terms of their contract, and monitor the processes, procedures and deliverables from DDOE staff to ensure they are supporting the goals and objectives of assigned projects.

- Specfically the Technical Project Manager will:
  - Confirm by examination and provision of objective evidence that specified project requirements (systems are built right) have been fulfilled and appropriate to the intended use (the right system is being built);
  - Monitor the project plans and schedules to ensure that work is proceeding as expected, providing regular status to updates to DDOE management on risks and issues as they are identified;
  - Review all project deliverables, verifying that they are compliant with contracts and plans, recommending revisions for non-compliant products, and recommending approval of acceptable deliverables;
  - Effectively communicate project status and results of project analyses to internal and external project stakeholders;
  - Provide consultation and assistance to DDOE project managers as requested by the Director of the Technology Workgroup.

B. **Related Costs:**

- Travel - The funds budgeted for travel in Delaware's grant application if for four quarterly SLDS meetings for the Project Sponsor and the Project Manager. The estimate includes travel, food, and overnight accomodations.

(b) Deliverable 2: Delaware Local Assessment Builder (LAB)

Delaware is requesting $2,273,750 for implementing the Local Assessment Builder outcome. The costs are broken down as follows:

	2. Local Assessment Builder (LAB)				
	Category	**Year 1**	**Year 2**	**Year 3**	**3-Year Total**
1	**Personnel**	$0	$0	$0	**$0**
2	**Fringe Benefits**	$0	$0	$0	**$0**
3	**Travel**	$0	$0	$0	**$0**
4	**Equipment**	$0	$0	$0	**$0**
5	**Supplies**	$360,000	$290,000	$290,000	**$940,000**
6	**Contractual**	$656,250	$601,250	$76,250	**$1,333,750**
7	**Construction**	$0	$0	$0	**$0**
8	**Other**	$0	$0	$0	**$0**
9	**Total Direct Costs (Lines 1-8)**	$1,016,250	$891,250	$366,250	**$2,273,750**
10	**Indirect Costs**	$0	$0	$0	**$0**
11	**Training Stipends**	$0	$0	$0	**$0**
12	**Total Costs (Lines 9-11)**	**$1,016,250**	**$891,250**	**$366,250**	**$2,273,750**

The Delaware Local Assessment Builder (LAB) Project is envisioned to create for Delaware schools the capacity for teachers to manage their own local assessments using both a national content library and local items. Teachers will also be able to both scan their paper tests and have their students take them online. Schools and districts will manage assessment data mapped to their curriculum and their

benchmark assessments. With the capacity to upload these data to the Insight Data Warehouse, the users will be able to link to all the data there. For example, teacher data in the Insight Data Warehouse includes performance ratings, certification status, and highly qualified teacher status. For students, the data include elements such as statewide assessment scores, attendance, grades, and discipline. The Insight Dashboard and its reporting tools will then be available for analysis and reporting. Delaware currently utilizes software from Sungard called eSchoolPlus to deliver statewide student information system services to 100% of the public schools in Delaware. Our plan it to purchase additional software from Sungard called PerformancePlus with includes modules for Performance Tracker, Assessment Builder, and Curriculum Connector to provide the services outlined above. This software PerformancePlus which is part of Sungard's Plus 360 suite of software will join our eSchoolPlus and IEPPlus components of the Plus 360 suite.

Implementation of the PerformancePlus modules will require DDOE to hire some subject matter experts as well as a contract with Sungard as follows:

A. **Contractual:**

- Contractual Positions:

    o Utilize the Technical Project Manager listed in Deliverable 1.

    o An Assessment Content Expert will be contracted for by DDOE to provide internal coordination and interface with schools and districts and Sungard. The position will be filled mid-way through year 1 and be full-time in years two and three. Annual salary will be $120,000.

    o A contractual Data Warehouse Database Administrator (DBA) will be hired to supplement the capacity of the DDOE technical staff in documenting the assessment aplication's repositories and reports, and coding the iMart connectors that perform the ETL from the source into the Data Warehouse. The DBA will also work with the Dashboard Developer to develop the new ETL from the Data Warehouse to the Insight Dashboard. The DBA will be funded 100% from the grant for the first two years. The cost to the grant will be $75,000 in year 1 and $150,000 in year 2.

    o An Insight Dashboard Developer will be contracted to work with the DBA to develop the new ETL from the Data Warehouse to the Insight Dashboard for the assessment data. The Insight Dashboard Developer will be required to work 50% of their time on this project for a total cost of $150,000.

    o A Metadata Specialist will be required to document the table structure, fields, and option sets in the assessment application source database; the business rules for transforming the data; and the requirments for the tables in the Data Warehouse. This will be done to the standards established for the Insight Data Warehouse. The Metadata Specialist will require 240 hours in year one at $110 per hour for a total of $26,400, and 240 hours in year two for a total of $26,400.

- Contracted Work:

  - DDOE will assemble user and stakeholder groups to work with Sungard during the implementation and training phase of this project. The estimates for the PerformancePlus suite is listed under supplies, the following costs are contractual costs associated with the implementation of the PerformancePlus suite.

  - A trainer and support staff person will be provided by Sungard in order to deliver sesions, materials, and help to teachers and other users during the implementation and training phase of their PerformancePlus software suite. These services will be available for 50 days in year one, 200 days in year two, and 100 days in year three. The cost will be a part of the fixed-price contract awarded. Estimated hourly rate is $120. The cost is included in the contracted work described below.

  - The company contracted to provide the software would also be contracted to deliver implementation services for the schools, districts, and DDOE. In year one, this would be for implementation of the performance tracking from locally built assessments at a cost estimated to be $330,000. In year two, the implementation services will include the curriculum planning component and be estimated to cost $270,000.

  - Training for teachers and DDOE staff will be provided by the contracted company. In year one $150,000 is budgeted, year two $80,000, and year three $50,000.

B. **Supplies:**

- Software application for tracking performance using local assessments built by teachers using the item banks provided. Estimate for a statewide license for all teachers and students in year one is $260,000.

- In year two, DDOE will phase in the functionality for linking assessments and results to curriculm planning. With this additional functionality, the cost for each of years two and three is estimated to be $290,000.

- When the stakeholder groups have reviewed the data and Insight Dashboard capabilities related to the new assessment application, a determination will be made about additional analitical tools required to meet user needs. The estimated cost to acquire and add these tools to the Dashboard is $100,000.

- DDOE will assume the costs for maintenance in the remaining years.

(c) Deliverable 3: Delaware Data Driven Analysis Program (3DAP)

Delaware is requesting $941,500 for implementing the Delaware Data Driven Analysis Program outcome. The costs are broken down as follows:

3. Delaware Data Driven Analysis Program (3DAP)				
Category	Year 1	Year 2	Year 3	3-Year Total
1 Personnel	$0	$0	$0	$0
2 Fringe Benefits	$0	$0	$0	$0
3 Travel	$2,400	$4,800	$4,800	$12,000
4 Equipment	$0	$0	$0	$0
5 Supplies	$0	$0	$0	$0
6 Contractual	$120,000	$269,000	$215,000	$604,000
7 Construction	$0	$0	$0	$0
8 Other	$0	$0	$0	$0
9 Total Direct Costs (Lines 1-8)	$122,400	$273,800	$219,800	$616,000
10 Indirect Costs	$0	$0	$0	$0
11 Training Stipends	$217,000	$54,250	$54,250	$325,500
12 Total Costs (Lines 9-11)	$339,400	$328,050	$274,050	$941,500

The Delaware Data-Driven Analysis Program (3DAP) is envisioned to provide the users of the Insight Dashboard and Warehouse the analytical tools, training, and support required to understand the data and make full and proper use of them. Users of all roles will be personally trained and have available to them printed and on-line guidance materials.

A. **Travel:**

The Data Quality Trainer and Data Use Trainer will be required to provide training in countywide locations. Delaware has only three counties and most locations would be withing a 45 mile drive from the SEA central office. Since both positions will be hired midway through the first year the travel is estimated at $2,400 for both, for years two and three the travel would be $4,800 for each year.

B. **Contractual** Descriptions of responsibilities for key contracted personnel and justifications of their time commitments and other itemized costs:

- The 3DAP Project Manager will be responsible for not only coordinating all of the project activities, but also ensuring the integrity of the content of the professional development resources. This is the Technical Project Manager listed in Deliverable 1, so there are no costs included here.

- A Data Quality Trainer will be responsible for devloping training materials, planning delivery of training, and providing training as appripriate related to the submission of quality data to the Insight Data Warehouse. This position will be filled by the Project Manager mid-first year and be full-time throughout the project. The annual cost will be $52,500 in year one, and $105,000 in years two and three.

- A Data Use Trainer will be responsible for devloping training materials, planning delivery of training, and providing training as appripriate related to the proper use of data available through the Insight Dashboard. This position will be filled by the Technical Project Manager

mid-first year and be full-time throughout the project. The annual cost will be $52,500 in year one, and $105,000 in years two and three.

- Content experts will be called upon to provide supplemental assistance to design and develop training modules for both the data quality and use areas. Estimated hours are 360 hours at $150 per hour for a total of $54,000 in year two.

- Facilities will need to be rented for training sessions held in each of the three counties statewide. Data quality and data use sessions may be combined to reduce costs and travel. The estimated costs of these facilites each year is:

  a. Year one: $15,000

  b. Year two: $5,000

- DDOE already has a subscription to Blackboard that will be available to 3DAP at no cost.

C. Training Stipends

- Stipends will be paid to district and State-level knowledge workers attending training sessions on data quality following standard DDOE policy. Stipends are $155/day for an estimated number of 400 persons trained in year one requring a stipend. This totals $62,000. In each of years two and three, training for new personnel is estimated to cost $15,500 for 100 people requiring stipends. Train-the-trainer and other methods will be used to reach the additional people.

- Stipends will be paid to school and district users attending training sessions on Insight Dashboard features and functions following standard DDOE policy. Stipends are $155/day for an estimated number of 1,000 persons trained in year one requring a stipend. This totals $155,000. In each of years two and three, training for new personnel is estimated to cost $38,750 for 250 people requiring stipends. Train-the-trainer and other methods will be used to reach the additional people.

(d) Deliverable 4: Legacy Migration (LM)

	4. Legacy Migration (LM)				
	Category	Year 1	Year 2	Year 3	3-Year Total
1	Personnel	$0	$0	$0	$0
2	Fringe Benefits	$0	$0	$0	$0
3	Travel	$0	$0	$0	$0
4	Equipment	$0	$0	$0	$0
5	Supplies	$0	$0	$0	$0
6	Contractual	$250,000	$250,000	$250,000	$750,000
7	Construction	$0	$0	$0	$0
8	Other	$0	$0	$0	$0
9	Total Direct Costs (Lines 1-8)	$250,000	$250,000	$250,000	$750,000
10	Indirect Costs	$0	$0	$0	$0
11	Training Stipends	$0	$0	$0	$0
12	Total Costs (Lines 9-11)	$250,000	$250,000	$250,000	$750,000

A. **Personnel:**

- The Data Warehouse Database Manager, Tommy Tao, will be assigned to the 3DAP Project for 100% of his time over the three years of the grant. He oversaw the technical design and ETL work for the Insight Data Warehouse; therefore, he will ensure that this phase has continuity and integrity with that earlier architecture. His institutional knowledge of DDOE's legacy reositories and reports will be essential to the efficient and accurate migration. He will work with the Senior iMart Developer to design and modify the required enhancements to the Insight Data Warehouse to accommodate the additional contents. The Database Manager will be funded 100% by DDOE.

B. **Contractual:** Descriptions of responsibilities for key contracted personnel and justifications of their time commitments; other itemized costs

- Two Data Warehouse Database Administrators (DBA) will be hired to supplement the capacity of the DDOE technical staff in documenting the legacy repositories and reports, and coding the iMart connectors that perform the ETL from the sources into the Data Warehouse. The DBAs will be funded 100% from the grant for the first two years. The cost to the grant will be $134,000 in year 1 and $160,000 in year 2.

- A Senior iMart Developer will be contracted to design and build the modifications to the Insight Data Warehouse to design and modify the required enhancements to the Insight Data Warehouse to accommodate the additional contents. The cost will be a part of the fixed-price bid and contract awarded. The number of hours will be 500 in year one and 250 in year two. Estimated hourly rate is $150. The cost is included in the contracted work described below.

- An Insight Dashboard Developer will be contracted to work with the DBA to develop the new ETL from the Data Warehouse to the Insight Dashboard for the assessment data. The Insight Dashboard Developer will require 240 hours in year one at $125 per hour for a total of $30,000, and 480 hours in year two for a total of $60,000. The cost is included in the contracted work described below.

- A Metadata Specialist will be required to document the table structure, fields, and option sets in the assessment application source database; the business rules for transforming the data; and the requirmeents for the tables in the Data Warehouse. This will be done to the standards established for the Insight Data Warehouse. The Metadata Specialist will require 240 hours in year one at $110 per hour for a total of $26,400, and 240 hours in year two for a total of $26,400. The cost is included in the contracted work described below.

C. **Contracted Work:**

- A contract for services will be bid as per standard DDOE policy for the positions described above. The contract will include the overall management and coordination of the deliverables to be performed by each position. The overall cost of the contract is estimated to be $250,000 in year one, $250,000 in year two, and $75,000 in year three.

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.

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

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

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

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

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

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

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

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

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

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

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	* TITLE
Kimberly Rodriguez	Secretary of Education
* APPLICANT ORGANIZATION	* DATE SUBMITTED
Delaware Department of Education	12/15/2011

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CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

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

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

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

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,00 0 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 subjec t to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

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* APPLICANT'S ORGANIZATION

Delaware Department of Education

* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: Dr.   * First Name: Lillian   Middle Name:

* Last Name: Lowery   Suffix:

* Title: Secretary of Education

* SIGNATURE: Kimberly Rodriguez   * DATE: 12/15/2011

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