

# **U.S. Department of Education**

Washington, D.C. 20202-5335



## **APPLICATION FOR GRANTS UNDER THE**

**STATEWIDE LONGITUDINAL DATA SYSTEM RECOVERY ACT GRANTS  
CFDA # 84.384A  
PR/Award # R384A100045**

Closing Date: DEC 04, 2009

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<b>Application for Federal Assistance SF-424</b>		Version 02
* 1. Type of Submission		
<input type="checkbox"/> Preapplication	* 2. Type of Application: * If Revision, select appropriate letter(s):	
<input checked="" type="checkbox"/> Application	<input checked="" type="checkbox"/> New	
<input type="checkbox"/> Changed/Corrected Application	<input type="checkbox"/> Continuation	* Other (Specify)
	<input type="checkbox"/> Revision	
* 3. Date Received: 12/4/2009	4. Applicant Identifier:	
5a. Federal Entity Identifier:	* 5b. Federal Award Identifier: 84.384	
<b>State Use Only:</b>		
6. Date Received by State:	7. State Application Identifier:	
<b>8. APPLICANT INFORMATION:</b>		
* a. Legal Name: Indiana Department of Education		
* b. Employer/Taxpayer Identification Number (EIN/TIN): 356000158	* c. Organizational DUNS: 824799209	
<b>d. Address:</b>		
* Street1:	Room 229 State House	
Street2:		
* City:	Indianapolis	
County:		
State:	IN	
Province:		
* Country:	USA	
* Zip / Postal Code:	46204	
<b>e. Organizational Unit:</b>		
Department Name: Information Technology	Division Name: Data Analysis, Collection, and Reporting	
<b>f. Name and contact information of person to be contacted on matters involving this application:</b>		
Prefix:	Dr.	* First Name: Molly
Middle Name:		

\* Last Name: Chamberlin

Suffix:

Title: Director, Data Analysis, Collection, and Reporting

Organizational Affiliation:

\* Telephone Number: (317)234-6849 Fax Number: (317)233-6326

\* Email: MCHAMBER@DOE.IN.GOV

**Application for Federal Assistance SF-424**

Version 02

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

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

**10. Name of Federal Agency:**

U.S. Department of Education

**11. Catalog of Federal Domestic Assistance Number:**

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

**\* 12. Funding Opportunity Number:**

ED-GRANTS-072909-001

Title:

Grants for Statewide Longitudinal Data Systems Under the American Recovery and Reinvestment Act of 2009

**13. Competition Identification Number:**

84-384A2009-1

Title:

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

State

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

Indiana P-20 LDS: The Next Generation (2G)

Attach supporting documents as specified in agency instructions.

**Attachment:**

Title :

File :

**Attachment:**

Title :

File :

**Attachment:**

Title :

File :

**Application for Federal Assistance SF-424**

Version 02

**16. Congressional Districts Of:**

\* a. Applicant: IN-all

\* b. Program/Project: IN-all

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

**Attachment:**

Title :

File :

**17. Proposed Project:**

\* a. Start Date: 6/1/2010

\* b. End Date: 5/31/2013

**18. Estimated Funding (\$):**

a. Federal	\$ 14673733
b. Applicant	\$ 0
c. State	\$ 1800000
d. Local	\$ 0
e. Other	\$ 0
f. Program	\$ 0
Income	
g. TOTAL	\$ 16473733

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

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

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

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

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

Yes  No

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

\*\* I AGREE

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

**Authorized Representative:**

Prefix: Mr. \* First Name: Jason

Middle Name:

\* Last Name: Thacker

Suffix:

Title: Chief Information Officer

\* Telephone Number: (317)232-0807 Fax Number: (317)233-6326

\* Email: JTHACKER@DOE.IN.GOV

\* Signature of Authorized Representative:

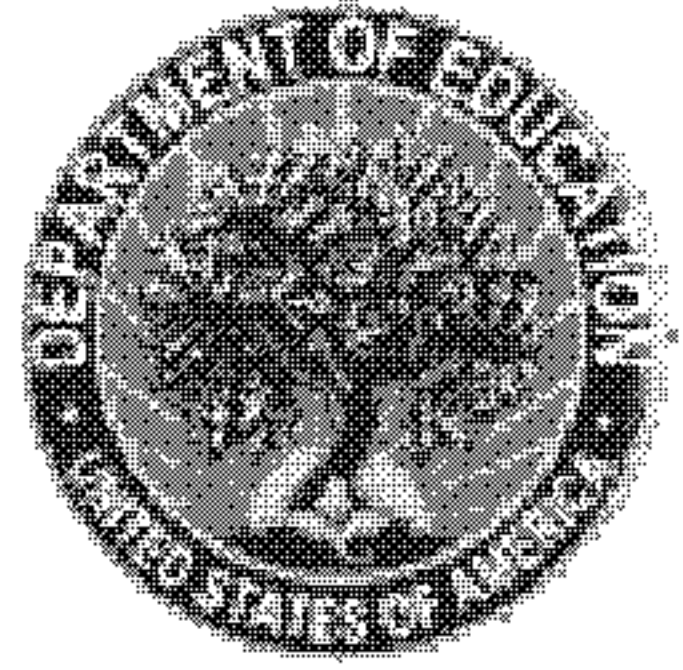
\* Date Signed:

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

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



**U.S. DEPARTMENT OF EDUCATION**

**BUDGET INFORMATION**

**NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:  
Indiana 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	\$ 228,206	\$ 228,206	\$ 228,206	\$ 0	\$ 0	\$ 684,618
2. Fringe Benefits	\$ 79,872	\$ 79,872	\$ 79,872	\$ 0	\$ 0	\$ 239,616
3. Travel	\$ 10,000	\$ 10,000	\$ 10,000	\$ 0	\$ 0	\$ 30,000
4. Equipment	\$ 417,500	\$ 0	\$ 0	\$ 0	\$ 0	\$ 417,500
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 4,774,000	\$ 4,889,000	\$ 3,399,000	\$ 0	\$ 0	\$ 13,062,000
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 50,000	\$ 50,000	\$ 50,000	\$ 0	\$ 0	\$ 150,000
9. Total Direct Costs (lines 1-8)	\$ 5,559,578	\$ 5,257,078	\$ 3,767,078	\$ 0	\$ 0	\$ 14,583,734
10. Indirect Costs*	\$ 30,000	\$ 30,000	\$ 30,000	\$ 0	\$ 0	\$ 90,000
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 5,589,578	\$ 5,287,078	\$ 3,797,078	\$ 0	\$ 0	\$ 14,673,734

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

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

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

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

Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2007 To: 6/30/2010 (mm/dd/yyyy)

Approving Federal agency:  ED  Other (please specify): \_\_\_\_\_ The Indirect Cost Rate is 0%

(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 0%



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

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:  
 Indiana Department of Education

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

**SECTION B - BUDGET SUMMARY**  
**NON-FEDERAL FUNDS**

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

## ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

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

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

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

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

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. "4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. "1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. '794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. "276a to 276a-7), the Copeland Act (40 U.S.C. '276c and 18 U.S.C. "874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. " 327-333), regarding labor standards for federally assisted construction sub-agreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. "1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. "7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. "1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance

of 1975, as amended (42 U.S.C. " 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) " 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. " 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. ' 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. "1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. '470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. "469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. "2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. "4801 et seq.) which prohibits the use of lead- based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

**Signature of Authorized Certifying Representative:**

**Name of Authorized Certifying Representative:** Jason Thacker

**Title:** Chief Information Officer

**Date Submitted:** 12/04/2009

### Disclosure of Lobbying Activities

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

<b>1. Type of Federal Action:</b> <input type="checkbox"/> Contract <input checked="" type="checkbox"/> Grant <input type="checkbox"/> Cooperative Agreement <input type="checkbox"/> Loan <input type="checkbox"/> Loan Guarantee <input type="checkbox"/> Loan Insurance	<b>2. Status of Federal Action:</b> <input type="checkbox"/> Bid/Offer/Application <input checked="" type="checkbox"/> Initial Award <input type="checkbox"/> Post-Award	<b>3. Report Type:</b> <input checked="" type="checkbox"/> Initial Filing <input type="checkbox"/> Material Change <b>For Material Change only:</b> Year: 0Quarter: 0 Date of Last Report:
<b>4. Name and Address of Reporting Entity:</b> <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier, if known: 0 Name: Indiana Department of Education Address: Room 229 State House City: Indianapolis State: IN Zip Code + 4: 46204-	<b>5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:</b> Name: Address: City: State: Zip Code + 4: -  Congressional District, if known:	
<b>6. Federal Department/Agency:</b> Institute of Education Sciences	<b>7. Federal Program Name/Description:</b> Grants for Statewide Longitudinal Data S  CFDA Number, if applicable: 84.384	
<b>8. Federal Action Number, if known:</b>	<b>9. Award Amount, if known:</b> \$0	
<b>10. a. Name of Lobbying Registrant</b> (if individual, last name, first name, MI): Address: City: State: Zip Code + 4: -	<b>b. Individuals Performing Services</b> (including address if different from No. 10a) (last name, first name, MI): Address: City: State: Zip Code + 4: -	
<b>11.</b> Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Name: Jason Thacker Title: Chief Information Officer Applicant: Indiana Department of Education Date: 12/04/2009	
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

## CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

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

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

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

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

Statement for Loan Guarantees and Loan Insurance.

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

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

**APPLICANT'S ORGANIZATION**

Indiana Department of Education

**PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE**

Prefix:                      First Name: Jason    Middle Name:

Last Name: Thacker    Suffix:

Title: Chief Information Officer

Signature: \_\_\_\_\_    Date: 12/04/2009



# Project Narrative

## Project Narrative - Project Abstract

### Attachment 1:

Title: **Indiana P-20 LDS 2G: Project Abstract** Pages: **0** Uploaded File: **C:\Documents and Settings\mchamber\My Documents\Longitudinal Data Systems Grant\Indiana P-20 LDS 2G\_abstract.doc**

## *Project Abstract*

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The Indiana Department of Education (IDOE) plans to use funds from the Statewide Longitudinal Data System Grant to ensure that its SLDS project, titled Indiana P-20 LDS: The Next Generation (2G), is fully able to meet all required systems capabilities and elements under the America COMPETES Act.

The proposed project will allow Indiana to improve data exchange and linkages, data interoperability, and data accessibility for informed decision making. With Indiana LDS 2G, Indiana will build on the success it has had with its 2007 SLDS grant (Indiana P-20 LDS). Under its current grant, Indiana has worked toward making data available to classroom teachers through its Learning Connection project; creating an enterprise data warehouse; piloting data linkages with workforce and higher education; increasing data quality and reducing redundancy; and improving data governance.

The first goal of the project is the realization of an automated, real-time data exchange solution, allowing for two-way data exchange (from schools to IDOE, and from IDOE to schools); promoting data interoperability, higher quality data, and timelier access to relevant data. In addition, it will decrease burden around manual data reporting and validation, freeing up district resources to focus on data quality and data usage for student achievement. By accomplishing this goal, Indiana will achieve the outcomes of supporting interoperability by using standard data structures, formats, and definitions; more accurately linking student and teacher data; further ensuring the overall quality and integrity of data; and increasing the ability of the state to provide timely and accurate data for federal reporting.

The second project goal is that student-level transcript data are available for secure exchange; data are standardized and interoperable in that a single transcript format is used and state and local course codes are mapped to SCED; and PK-12 and higher education data are fully linked and integrated through a transcript repository, allowing for quicker, more seamless student transitions, diploma auditing, high school feedback reports, and evaluation. By achieving this goal, Indiana will achieve the outcomes of fully integrating K-12 and higher education data, as well as being able to examine student progress over time, provide data on successful transitions, and provide information necessary to address alignment and preparation for postsecondary success.

The third goal of the project is to increase timely and secure access to data (especially at the classroom level), as well as to build the capacity of local educators to utilize data and provide data-driven instruction, resulting in increased student achievement. Indiana will build on its Learning Connection project to include additional longitudinal data (including postsecondary data), further data analysis tools, and targeted professional development around data-driven instruction. By achieving this goal, Indiana will achieve the outcomes of enabling data to be generated for continuous improvement and decision making and providing information about successful student transition.

Indiana is confident that the achievement of its core project goals will attain the ultimate vision of a P-20 data system that supports informed decision making for all stakeholders, ultimately resulting in increased achievement and attainment statewide.

# Project Narrative

## Project Narrative - Project Narrative

### Attachment 1:

Title: **Indiana P-20 LDS: The Next Generation (2G)** Pages: **0** Uploaded File: **C:\Documents and Settings\mchamber\My Documents\Longitudinal Data Systems Grant\2009 Indiana SLDS Application\_Indiana LDS The Next Generation (2G)\_final.doc**

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## *Project Narrative*

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### **a). Need for the Project**

The vision of the proposed project is to make full use of Indiana's P-20 education data system as an exchange tool for informed decision making for all stakeholders, resulting in increased achievement and attainment statewide. Grant funds will allow the Indiana Department of Education (IDOE) to achieve its vision of a fully functional P-20 data exchange system. Such a system will meet all America COMPETES requirements and capabilities, including but not limited to enhancing linkages between K-12, higher education, and the workforce; availability of robust course completion data; implementation of a real-time automated data exchange solution with SIF-compliant interoperability standards; and, perhaps most importantly, the ability to share data with stakeholders (such as educators, parents, and policymakers) in a clear and usable, yet secure and FERPA-compliant manner.

The proposed system will allow Indiana to address requirements of the State Fiscal Stabilization Fund, especially around data exchange and matching capabilities across K-12 and higher education institutions; increased data quality and availability through real-time, secure data access and exchange; the facilitation of data review and analysis at the classroom level; data interoperability; increased data integration, including the ability to link teachers to students in real time and examine course completion and course taking patterns; reduction in data entry and reporting burden for school districts, resulting in more time to focus on data quality and high quality classroom instruction; and improved functions for longitudinal analysis from pre-kindergarten into the workforce. While Indiana has had success in implementing projects that will help realize all requirements and capabilities of a longitudinal data system, ARRA funds being requested through this proposal will help Indiana's longitudinal data system achieve its full utility.

Currently, Indiana has completed or is in progress to complete eight of the twelve required elements of the America COMPETES Act (elements 1-2 and 4-8). Additionally, Indiana has completed all K-12 aspects of element 3 (student-level information about the points at which students exit, transfer in and out, and drop out of or complete P-16 programs). Indiana has begun preliminary work on elements 7 (course completion data), 11 (transition to postsecondary education), and 12 (other information necessary to address alignment and preparation).

Indiana received a SLDS grant in 2007. IDOE has been successful at implementing a number of initiatives through this grant. IDOE's 2007 SLDS grant efforts have focused on providing data to teachers at the classroom level through the Learning Connection (described below); piloting data linkages between K-12, higher education, and the workforce; developing a data warehouse; developing and implementing a data governance system (data stewards, data sharing agreements, and data request processes); and increasing data quality and reducing data redundancy.

Using grant funds, Indiana developed the first iteration of a teacher tool (portal) called the Learning Connection. A free service to Indiana educators, the Learning Connection provides secure access to key student achievement data while serving as a common platform for lesson planning, curriculum design, and collaboration.

Once completed, the Learning Connection will promote customization and personalized access to data and classroom materials. Teachers will have rights to see student-level data for students they serve and will be able to provide their colleagues with guest access to class materials, but not to data about students in those classes. Teachers will have the ability to subscribe to content

from educational organizations beyond their school (e.g., professional organizations, education service centers, etc.). School and district administrators will have access to data at the level of their organization (i.e., school or district). Administrator accounts will also have the ability to create users and manage permissions. District administrators will be able to assign users to appropriate schools. Parents and students will be able to access information produced within the portal and shared publicly on the Web (however, no student-level information will be presented in an unsecured environment). At the discretion of the school or district, parents and students may receive additional login access to profiles of student achievement. Educational organizations may also use the portal as a means of working with pre-service and practicing teachers. These organizations will have accounts with rights that parallel those of schools but with no access to students or their information.

In addition to making data more available to educators, the state has also undertaken steps to reduce data reporting redundancy and increase data integrity through its data steward program. There are 29 data stewards responsible for data collections from key programs, including Title I, special education, accreditation, alternative education, and McKinney-Vento homeless. Data stewards participate in monthly meetings as well as quarterly small group trainings. When a data steward's collection is open, s/he is responsible for reviewing data summary reports and contacting IT staff with any data that may appear to be inaccurate. Data stewards are also responsible for sharing information with other data stewards about their data collections and reviewing relevant data for federal reporting through *EDFacts*. Currently the data steward program is at the state level only; however, recently IT staff and data stewards have begun piloting a series of WebEx trainings for local level personnel around data collections and data quality. Ultimately, the desire is that the WebEx trainings become a certification program for data stewards at the local level. To further increase data quality, IDOE has implemented additional data validation checks, exception reports, and post-collection summary reports. To reduce data redundancy, IDOE has reviewed all of its student-level data collections through a Web service call STN (Student Test Number) Application Center (described in detail below) and removed all data fields determined to be unnecessary or redundant (collected elsewhere). Through this project, IDOE removed over 45 fields. IDOE is also currently undertaking a project to inventory all of its non-STN data collections, eliminate those that are no longer necessary or redundant, and identify whether collections can be moved to the STN Application Center.

Under its current grant, IDOE has also begun efforts to create an enterprise data warehouse. Detailed information about the data warehouse project is provided below, in the Capabilities section. IDOE has also begun to work toward matching K-12 data to data collected by the Indiana Commission for Higher Education (CHE) and Indiana's Department of Workforce Development (DWD).

While current efforts are promising, there is much additional work to be done in order to meet all of the requirements and demonstrate all of the capabilities of a fully functional statewide longitudinal data system. Timely access to data and data exchange remains an issue, as IDOE's data collection system currently collects data only at periodic intervals throughout the year; therefore, real-time data collection and reporting is nearly impossible. Additionally, IDOE requires school districts to submit data manually, using the STN Application Center; moreover, interoperability standards are not in place. The implementation of a vertical interoperability solution which allows for automated, real-time data exchange while meeting SIF interoperability standards would reduce the burden on school districts of manually validating and reporting data.

In addition, the real-time nature of the data exchange would improve data quality by allowing for frequent and timely data validation and exception reports.

The IDOE and its partner agencies (DWD, Department of Workforce Development and CHE, Commission for Higher Education) also aim to increase the state's P-20 infrastructure by enhancing its e-transcript initiative to include college to college XML transcript exchange. Moreover, the IDOE plans to support the creation of a transcript repository with a number of reporting capabilities, including the production of high school feedback reports and diploma audits. The transcript repository will be populated with both high school and postsecondary data and will also facilitate the matching of data between K-12 and postsecondary. Finally, IDOE will increase the interoperability of its transcript data by mapping its state and local course codes to SCED (School Codes for the Exchange of Data).

### **Capabilities of IDOE's Current SLDS and Progress Toward Meeting Requirements**

IDOE has made significant progress toward meeting the requirements of a robust SLDS, both using federal funding through the SLDS grant project, as well as using state and other funding. For a synopsis of IDOE's progress toward meeting requirements, as well as funding sources, refer to Appendix C. This section will discuss IDOE's progress toward meeting requirements, as well as its plans for further progress in fully meeting requirements using ARRA funds.

Using its Student Test Number (STN), a unique identifier that is not associated with Social Security Number (SSN) or any other type of official identification, IDOE currently maintains a fairly large repository of longitudinal data. Using STN, school districts upload data through the STN Application Center, a Web service. IDOE collects data on student demographics (including limited English proficiency and homeless status), program participation (such as Title I, special education, alternative education, and career and technical education), performance on various assessments, students not tested and reasons for not testing, dropout and mobility, and graduation, as well as post-secondary plans. Since the STN allows for tracking students across multiple years (across a student's entire K-12 career), IDOE was able to implement a graduation cohort calculation earlier than most states. The graduation cohort rate was used officially for the first time in 2005-2006. In terms of assessment data, IDOE receives data at the student level for ISTEP+ (state standardized assessment), LAS Links (LEP assessment), ISTAR (Indiana's alternate assessment), End of Course Assessments, ACT, SAT, AP, and (beginning in January 2010) PSAT. Finally, IDOE has also used student-level data collected to create an at-risk indicator tool. The tool, housed within the STN Application Center (described below), identifies eighth grade students who may be at risk of not graduating, based on failing ISTEP+ for two consecutive years (7<sup>th</sup> and 8<sup>th</sup> grade); retention in the same grade (8<sup>th</sup> grade to 8<sup>th</sup> grade); high mobility (number of schools attended in the past four years); and attendance rate.

Student-level data (as well as teacher- and administrator-level data) are uploaded to IDOE from local educational agencies (LEAs), accredited non-public schools, and freeway schools.<sup>1</sup> IDOE's mechanism for receiving school data is a Web application called STN Application Center. LEAs load data at specified periods of the year, according to published file specifications, in csv, positional, or XML format. At the time of data upload, Application Center performs a variety of data quality checks and validations, according to the specific requirements for each data collection. Cross-field and cross-collection validations are performed and individual records (or entire files) not meeting requirements are rejected with error messages and instructions for correction. Additionally, post-collection summary and exception reports are made available to

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<sup>1</sup> Freeway schools are defined in Indiana Code 20-26-15

schools submitting files for review. Post-collection reports are available at the student, school, and district levels. District superintendents (and charter school leaders or principals of non-public schools and freeway schools) are required to provide final signoff on data before collections are considered complete. IDOE is currently at 100% for its *EdFacts* submissions; as such, the state is now primarily focused on increasing the quality and accuracy of data submitted for federal reporting.

Two years ago, IDOE created its School Personnel Number (SPN), a unique identifier for certified personnel. The first data collection using SPN was conducted at the beginning of this year (2009-2010) using the Certified Employees/Certified Positions reports that are collected through the STN Application Center. The reports allow IDOE to identify teacher-level elements such as teacher demographics (race/ethnicity, age, and sex), as well as teacher experience (years of experience in the school, district, and state; highest degree obtained; and experience prior to employment as a certified teacher); teacher salary (regular and supplemental); and teacher assignment (course, level, and number of periods and pupils taught). In addition, IDOE's teacher licensure system (PCATS) also utilizes SPN, so IDOE can connect teacher demographic and assignment information to licensure and certification type, PRAXIS scores, and pre-service education institution. At present, IDOE does not connect SPN data to STN (student-level) data; however, it has plans to institute a teacher-student data collection at the end of the 2009-2010 school year, as well as to improve that collection with more timely exchange of data utilizing its proposed automated real-time data exchange (described later in this application).

As indicated in the previous section, IDOE's current SLDS grant funds have been used, in part, to create The Learning Connection, a tool designed to make data accessible to parents and educators in a secure manner. The Learning Connection will be publicly released in January 2010; however, a number of districts have already requested access and have begun using the Learning Connection. With role-based access, this resource is expected to become the central point of connection between the classrooms, homes, schools and districts, and educational organizations in Indiana. The Learning Connection is being constructed to comply with the technical frameworks already in place at the IDOE. The Learning Connection will depend on data from multiple source systems, including student- and teacher-level data, such as student assignments, assessment results, and course completion data.

IDOE has had its student- and teacher-level data collection in place since 2002; as such, the state maintains large quantities of student- and teacher-level data. Recognizing that it needed better mechanisms of storing and reporting those data, as well as making data available and promoting its quality and usage, IDOE applied for and received a grant for its P-20 SLDS project in 2007. A variety of projects designed to meet the requirements of a fully functional SLDS have been put in place using those funds, as well as in-kind support from IDOE staff in the IT area and other areas of the Department. One of the major initiatives of the current IDOE SLDS project is the creation of a data warehouse. IDOE still maintains a number of disparate systems, and data collected are housed in various data stores that are not clearly defined, nor are the data appropriately validated and cleaned. The data warehouse will be a central repository for IDOE data (the "single source"), providing for higher data quality and integrity. In addition, IDOE is reviewing a number of end-user and business intelligence tools to act as the presentation area of the data warehouse, allowing users to effectively query and analyze the data.

IDOE recognizes that simply having a data warehouse will not ensure that stakeholders find it useful or even access data from it for program evaluation, instructional improvement, and data-driven policymaking. As such, a data warehouse must be created with its stakeholders in mind.

To begin its data warehouse project, IDOE interviewed and surveyed a variety of stakeholders (both internal and external, including policymakers, educators, researchers, and IDOE staff). Using this feedback, IDOE identified a set of 31 key questions (called “key performance indicators” or KPIs) that ideally could be answered by accessing data from the warehouse, using business intelligence reporting tools (see Appendix A for the 31 KPIs). Data sets needed to answer the KPIs have been identified, and IDOE is working to create the data marts to be loaded into the warehouse. Once data have been loaded into the warehouse, a series of reports will be created to be reviewed by key stakeholders. When content and format of reports have been approved, they will be made available (some publicly, some not, depending on the level of data presented). IDOE has additional plans to provide targeted professional development to end-users on how to use data to answer the 31 KPIs as well as to use the data warehouse to further provide student-level longitudinal data to teachers and administrators using the Learning Connection. Moreover, IDOE intends to build on existing partnerships with institutions of higher education (as well as to institute new relationships) to provide professional development and “on the job” training for educators on how to analyze data and use it for benchmarking and evaluation, as well as differentiating and improving instruction to benefit student learning. Furthermore, in order to ensure that reports made available through the data warehouse and Learning Connection are sufficient to meet stakeholder needs, IDOE plans to continually obtain feedback from educators, policymakers, and researchers. Finally, IDOE will evaluate the effectiveness of its professional development to ensure that it has resulted in increases in data-driven instruction and data-driven policymaking that lead to increased student achievement and school attainment.

Under its current SLDS grant, IDOE has been working to make data more available to stakeholders, while ensuring compliance with FERPA. The Learning Connection is one mechanism that is designed to share data with educators. In addition, a large quantity of aggregated (non-identifiable) data is available on IDOE’s school accountability Website (called Accountability System for Academic Progress, ASAP). Users can query school- and district-level variables, such as enrollment, graduation cohort rates, demographics, assessment results (including AP, ACT, SAT, and ISTEP+), instructional time, average teacher experience, student/teacher ratios, and much more. Recognizing that researchers often need data at a more granular level, IDOE’s IT and legal staff have worked together to create data sharing agreement templates and to formalize data sharing policies (including cell suppression rules). IDOE also has a data request process, using SharePoint, in which IDOE users can log internal and external data requests. Requests are reviewed by the IDOE data reporting team, and data sharing agreements are entered into as necessary. The data request system allows IDOE data reporting staff to track the type and frequency of requests, as well as the turnaround time for filling requests.

Under its current grant, IDOE has also begun work to link P-20 data. At present, IDOE has not yet done much data matching with early childhood programs, other than state funded early childhood programs and special education early childhood programs. Currently, IDOE collects student-level data on children participating in the First Steps program (where these students are assigned Student Test Numbers, STNs, which then carry over with them into K-12 education); children participating in Title I preschool programs; children participating in pre-K special education programs (children ages three through five); and children participating in pre-school programs offered by school districts. All of these programs utilize STN, which allows for later linkages with K-12 data. IDOE has not yet worked with its Head Start, Even Start, or daycare or non-state funded preschool programs to discuss data linkages. In the next year, IDOE does plan to begin discussions with Head Start and Even Start programs to allow those programs to assign

STNs to students they are serving. IDOE has had preliminary discussions with Family and Social Services Administration (FSSA), which administers daycare programs, on how to connect early childhood and K-12 data, but no specific plans are in place at this time to move forward with data matching for these programs.

Efforts to link P-12 data (P data includes preschool data currently collected by IDOE, as described above) with higher education and the workforce are underway, however. A major focus of IDOE's current SLDS grant is continuing to bridge data gaps between K-12, higher education, and the workforce. Efforts to link data with higher education and the workforce have been facilitated through IDOE's, Commission for Higher Education (CHE)'s, and Department of Workforce Development (DWD)'s participation in the IWIS (Indiana Workforce and Education Intelligence System) project. IDOE has provided in-kind support through participation in the IWIS steering committee and dedicating the time of a programmer to match adult education data with workforce data. Through IWIS, Indiana is working toward providing a comprehensive data warehouse that acts as a repository for secure workforce, postsecondary, and K-12 education data. Using the data housed in IWIS, reports will be generated and research and evaluation can be facilitated. Higher education currently has a number of reports that have been generated through the project. IDOE has matched adult education data with DWD and CHE, and those data (de-identified) have been placed in the IWIS warehouse for an evaluation of adult education. IDOE next plans to share career and technical education (CTE) data with CHE and DWD to begin to identify the impact of CTE participation. The next step will be identifying the mechanisms by which K-12 education data can be connected to both postsecondary and workforce data, although K-12 education uses STN (student test number) and postsecondary and workforce uses SSN.

Enhancing data connections with higher education and workforce will be key to begin to answer IDOE's KPIs and to create reports to demonstrate whether students are prepared for postsecondary education and the job market. In addition to the IWIS project, IDOE is proposing to use ARRA funds to enhance its e-transcript system for easier high school to college transcript exchange, as well as college to college e-transcript exchange. In addition, IDOE plans to build an e-transcript repository with ARRA funds. Through the repository, reports can be generated for high schools that provide them with feedback on student performance in higher education, as well as providing IDOE with information on numbers of students needing remediation, the extent to which certain course-taking patterns are preparing students for higher education success, types of courses taken in college, and persistence in higher education.

In addition to linking data, IDOE is also looking at ways of making it easier for school districts to report and manage K-12 data. In this project proposal, IDOE plans to examine ways of automating data exchange between the state and schools. The state recognizes that the amount of data collected, as well as the frequency with which it must be collected, is ever increasing, due to additional federal and state data reporting requirements, as well as additional desire for more student-level data to inform classroom instruction and facilitate program evaluation. As such, the burden associated with manually uploading data to the STN Application Center continues to increase, providing additional costs to districts, as well as sometimes compromising the validity and integrity of data submitted. Furthermore, manual upload is not necessarily conducive to real-time data collection and reporting, which is important for data-driven instruction, evaluation, and student information exchange. The manual upload of data also does not allow IDOE to easily push data it receives back down to district. This may be problematic because although IDOE has attempted to build error checks and validations into its Application Center, data validation can be

difficult for districts and schools, because data are submitted relatively infrequently (usually quarterly or less frequently). More frequent exchange of data will help resolve these issues by leading to more frequent data validation reports and more frequent opportunities for schools to correct data, while at the same time the automation of data exchange will reduce reporting and data entry burden at the local level.

Increasing the ease and frequency with which it collects data, as well as enhancing its e-transcript initiative (described later in this section), IDOE will also facilitate two of the remaining components of the Data Quality Campaign (DQC) and America Competes Act core requirements that IDOE has not yet fully achieved. As of December of 2009, although IDOE has a unique teacher identifier (the School Personnel Number, or SPN), IDOE does not yet have a well-established mechanism for connecting teachers to students, nor for obtaining course completion data and student grades. Although IDOE plans to pilot a course completion and teacher-student link data collection at the end of the 2009-2010 school year (using its STN application center and manual data uploads), IDOE knows that more frequent data collection, as well as more frequent validations, will result in better and more accurate course completion data. The e-transcript repository that IDOE proposes to build with ARRA funding would also facilitate the reporting of course completion data, course taking patterns, whether students take remedial work in postsecondary, and postsecondary success, while automated real-time data exchange would allow IDOE to obtain more timely information on teacher-student linkages (currently, the collection occurs only once per year).

### **Limitations of the Current System and Project Need**

Despite progress that has been made through initiatives funded by its current Statewide Longitudinal Data Systems grant, Indiana has additional needs that cannot be addressed by efforts currently underway. Activities proposed in this grant will allow Indiana to achieve its vision of a fully functional, truly P-20 data system. IDOE has broken its SLDS project request into three elements. The first is primarily focused on increasing the interoperability, quality and availability of P-12 data, as well as reducing the burden of data reporting, while the second is focused on increasing data exchange and data interoperability with higher education and workforce, as well as creating reporting capabilities for secondary and postsecondary institutions with tools such as diploma auditing and high school feedback reports. Finally, the third element is focused on making P-20 data available to educators (student-level data) and researchers, policymakers, and the public (aggregated or de-identified data) in a secure manner, as well as providing professional development to increase educators' capacity to offer differentiated, data-driven instruction. This section details Indiana's needs for meeting the requirements and capabilities of a SLDS, as well as how its proposed projects will meet those needs.

#### **Automated Real-Time Data Exchange and Data Interoperability**

In 2009, Indiana's General Assembly passed a law requiring IDOE to collect real-time student enrollment and attendance data from K-12 institutions by January 1, 2010. Although IDOE plans to meet that requirement using its STN Application Center student-level data reporting system, data reporting will be manual and will require much effort on the part of local school districts. As such, IDOE has been examining ways to reduce the burden of real-time data reporting on school districts. In addition, IDOE recognizes that nightly data exchange would increase the frequency with which IDOE could share data (with educators, policymakers, and researchers), as well as the accuracy of data maintained by the state. By reducing the burden of manual data upload, IDOE will free up time at the local level that can instead be focused on increasing data quality

and using data for policymaking and high quality classroom instruction. Data collected will be stored by IDOE in its data warehouse and will be securely shared with educators through The Learning Connection and with researchers and policymakers through BI reporting tools (aggregated data) and data sharing agreements (de-identified student-level data). Moreover, IDOE is examining mechanisms through which it could also push data collected back down to the local level, to ease the burden of data entry on districts and to facilitate student data and record exchange.

As indicated in the previous section, currently IDOE relies on manual data upload to its STN Application Center. IDOE has created data layouts and file specifications for all required data, and IDOE has attempted to minimize reporting burdens on school districts by eliminating as many redundant data fields as possible. However, data are collected only at certain times during the year, and as a result, some redundancy in data collection is necessary. Because data collection is only periodic, in some cases school districts must report data on students from the previous school year at the beginning of the next school year (for example, dropout and mobility data are collected once, October 1 of the year following the previous school year); as such, data lag and real-time reporting is not a possibility. In many cases, the data lag hinders the quality of the data reported. Despite error checks, validations, and exception reports that have been built in to the STN Application System, errors and conflicts still abound. In some cases, because the reporting is occurring at the end of the year, the person inputting the data into the system cannot rectify errors with a student's record (because, for example, s/he doesn't know why the student was reported as in a much lower grade or with a different special education exceptionality eight months ago). Real-time data exchange, including daily exception, validation, and audit reports, would allow districts to make changes on a daily basis with much fresher data. In addition, all data transmission is done manually, through file upload. School districts have expressed concern that the manual file upload creates a large burden on school districts' minimal IT staff resources; with the new requirement to collect real-time data, school districts are even more worried about the burden it will place on them. Moreover, although data layouts have been defined, school districts in Indiana use multiple SIS vendors. As such, Indiana has not clearly defined data structures, formats, and definitions, so Indiana not only lacks interoperability between school districts, but also interoperability with the state and with other agencies (such as higher education).

Envisioned with automated, real-time data exchange is a solution that will reduce burden on schools' resources, while at the same time increasing the quality of the data collected by the IDOE. IDOE will be able to make better data available to teachers and administrators through the Learning Connection, and by housing real-time data in its data warehouse, researchers and policymakers, as well as IDOE staff, will be able to access timely aggregated and de-identified data. Moreover, by pushing reported data back down to school districts' information systems, data entry burden will be reduced, and high quality data will be more readily available to school districts. By virtue of the real-time nature of the automated data exchange, school personnel will also receive audit, error, and exception reports in a timelier manner, allowing personnel to review and correct information in real time.

The automated data exchange will also make it easier for educators and administrators to facilitate student transition. In many cases, educators have expressed that it is very difficult to obtain timely student-level information for highly transient students. Automated data exchange will allow educators to obtain, in a FERPA-compliant manner, data such as attendance, student course schedules and course completion, discipline, and assessment. In addition, data from the

K-12 automated data exchange can be uploaded into the transcript repository (see the next section) and securely matched with higher education data. Further, student to teacher data linkages will be more accurate, because real-time teacher-student assignments will be able to be identified, reviewed, and checked for accuracy.

The automated data exchange solution that Indiana is seeking must allow for the movement of large data sets from districts to the state, and from the state back to districts. Indiana desires the ability to make data movement on-demand (such as via Web services); in addition, districts must be able to call up data from the state. The ultimate desire is to minimize the burdensome impact of data movement and data reporting on districts. Indiana has been researching an SOA based solution with ESB capabilities to handle data movements between districts and the state in the form of file-based transfers, Web applications, Web services, or SIF agents (where applicable, although only a handful of districts in Indiana use SIF agents/ZIS). The SOA-based solution offers integrated security with communications via SSL (Secure Socket Layer) encrypted network connection (HTTPS) and Web services security via XML schema validation, SQL Injection handling, etc.

IDOE will also use this opportunity to create standardized data structures, formats, and data definitions across all local educational agencies (LEAs) in the state in order to facilitate data exchange. Data structures will be SIF compliant, which would provide flexibility to work with other states in the future. Standardized structures and formats will also facilitate data exchange with postsecondary institutions, as each level (PK-12 and postsecondary) will have a clear understanding of data structures and data being exchanged. To further facilitate data exchange between secondary institutions and postsecondary education, as well as postsecondary to postsecondary institutions, and to promote interoperability, IDOE is also requesting funds to expand its e-transcript initiative and create a transcript repository, as well as to standardize transcripts and map courses to SCED; this portion of the project is described in the next section.

The IDOE is in the process of conducting a capacity assessment of its districts for the implementation of real-time automated data exchange. A Request for Proposal (RFP) was released on November 30<sup>th</sup> to identify a vendor to conduct the capacity assessment. The assessment will identify the current status of student information systems at the local level (approximately thirty vendors operate throughout the state); perceived burden around utilizing the current data submission process; level of stakeholder buy-in for automated data exchange; needs, capacity, and challenges among vendors and local districts around real-time automated data exchange; and key risks and benefits as perceived by local stakeholders for real-time automated data exchange.

IDOE will use information from the assessment to determine which districts and vendors have immediate or near immediate desire and capacity for automated data exchange, as well as which districts and vendors may struggle with the implementation. IDOE will structure the roll-out of its automated data exchange solution based on this information.

### **E-Transcript, Transcript Repository, and Transcript Standardization**

Indiana began its e-transcript initiative in 2005. Working with Docufide, the vendor selected through an RFP process, the initiative has provided an easy and secure mechanism for high schools to electronically process and deliver transcripts to participating Indiana public and private post-secondary institutions. Although initial adoption of e-transcript began slowly, each year of implementation, IDOE and CHE (the Commission for Higher Education) have seen steady increases in the number of e-transcripts requested and submitted. Indiana's ultimate goal

is universal usage of e-transcript in all schools and for all students across the state (100% of high schools and 100% of public and private post-secondary institutions).

In order to ensure that all capabilities and requirements of a SLDS are in place in Indiana, IDOE, along with its partner agency, the Commission for Higher Education (CHE), has determined that additional work is needed on the Indiana e-transcript initiative, including facilitating college to collect e-transcript exchange, high school to college transcript exchange, automated GED transcript exchange. Moreover, creating a transcript repository with reporting capabilities will facilitate data exchange between secondary and postsecondary institutions, as well as allow for diploma auditing, course-taking pattern auditing, and high school feedback reports. Finally, mapping local and state course codes to SCED (School Codes for the Exchange of Data) will promote data interoperability (especially with other states, which do not use Indiana's course codes but may use SCED) and will further standardize Indiana's transcript. The proposed project will continue Indiana's current e-transcript initiative and will allow the state to continue to offer e-transcript at no cost to schools.

As noted earlier, Indiana has struggled to match K-12 data with postsecondary data because of a lack of a standard student-level identifier. Through the e-transcript project (including the plans to standardize the e-transcript), these issues will be much more easily resolved. The standardized e-transcript will include the STN. Using the proposed system, schools can securely upload transcripts to the transcript repository. Data are stored as XML, allowing for direct delivery to authorized users. Transcripts will meet transcript standards (PESC/XML and SIF 2.x r1). Transcript data are delivered to authorized users in the preferred format (PDF, PESC XML, or TS130 EDI) and method (secure download, SFTP, or Web services). All transmissions are secure and encrypted, with a unique ID, and data can be accessed only by authorized users. Transcripts can easily be shared between participating K-12 schools, secondary schools and postsecondary institutions, and postsecondary institutions to other postsecondary institutions. In addition to being used by high schools and postsecondary institutions for transcript data exchange, the repository can also be used by K-12 institutions to upload student course information, which can then be securely accessed by another school (if, for example, a student has moved). Once Indiana has its real-time automated data exchange system in place, it will likely no longer be necessary for K-12 institutions to utilize the batch upload. However, the phase in of real-time automated data exchange will take three years. The transcript repository solution will allow schools that are in later phases of implementation to still have the capability of automatically exchanging student records. Moreover, IDOE will still be able to glean reports on course-level data even during the phase in of real-time.

By building a transcript repository, Indiana will further facilitate the exchange of transcript data, as well as enhance the ability to match data between secondary schools and higher education. The transcript repository is populated with transcripts from bulk uploads from participating postsecondary schools, as well as from the IDOE's data warehouse (providing data from the automated, real-time data exchange); each time transcript data are uploaded, the database is updated to have the most current transcript on file for the student. A number of custom reports can be created from the transcript repository, using the standardized transcript fields (such as student demographics, courses passed/failed and courses currently being taken; credits and grades earned; SCED course ID; diploma type, etc.). Because the STN will be included on the e-transcript, as well as data loaded from IDOE (and will be used by both K-12 and higher education), reports can also be bi-directional (e.g., higher education reports can include high

school attended as well as higher education performance). Transcript data from the repository can also be extracted and loaded into the IDOE data warehouse. Because data will include the same identifier (the STN), this will allow for backtracking all the way to kindergarten, if the student was enrolled in a public or accredited non-public school in Indiana as a kindergartener (it could also include preschool, if the student was enrolled in a preschool program that uses STN).

Although easy transcript exchange will be very positive for Indiana secondary and postsecondary institutions, for true data interoperability, the transcripts must also be standardized down to the course level (course name, number of credits, etc.). Working with its selected vendor, IDOE will translate secondary school transcript data to standardized data, including course, level, and credit. Courses will be translated to the National Center for Education Statistics' Secondary School Course Classification System, School Codes for the Exchange of Data (SCED). Per NCES, the adoption of the SCED standard will enable comparison of courses among districts and states (allowing even for interstate comparisons); encourage interoperability of student information and data management systems; and reduce the cost and burden of transcript studies.

IDOE will utilize a vendor-developed interface for mapping its state and local course codes to SCED. Indiana already has state course codes that must be used by all school districts; however, in addition to the state course codes, districts may simultaneously use their own course codes. Using the developed interface, state or local personnel can enter state or local course codes, credits, sequence, and level; then, from a dropdown menu, users select the appropriate SCED course name and subject. The field is then automatically populated with course description.

IDOE will also work with its selected vendor to create diploma audits. The diploma audit will show school personnel and students their progress toward meeting diploma requirements. Diploma audits will include progress in Indiana Core 40 courses as well as estimated GPA. Reports can also be extracted that can show aggregated course performance and percentage of students on track to complete minimum course requirements for a Core 40 diploma at each Indiana high school. Data can be reported back to high schools and also used for accountability tracking.

Using data from the K-12 automated data exchange, and coupling that initiative with the e-transcript project (including building a transcript repository and standardizing transcripts and course codes), Indiana will be in a position not only to link high school and college data, but also to provide feedback reports to high schools, high school counselors, and teachers on student performance in higher education. Data could also be used at the K-12 level to more closely focus instruction and alignment to better prepare students for postsecondary education. Indiana will also be able to generate reports on course completion and course taking patterns, as well as to analyze the impact of course taking patterns on college success. Moreover, because e-transcripts will utilize a standard, universal student ID (the STN), Indiana will be able to track the number and percentage of students who take remedial course work, student performance in the freshman year of college and beyond, and the number and percentage of students completing college. Using the universal ID and backtracking to data stored in IDOE's data warehouse, Indiana will be able to track student performance back to kindergarten (or preschool, where applicable). Finally, through its IWIS project, Indiana will further be able to link data into the workforce, providing feedback reports to colleges on student performance in the workforce.

### ***The Learning Connection and Public Web Enhancements***

Although IDOE does make quite a bit of data available to the public on its public Website, data are aggregated (for security reasons) and the data reporting mechanisms currently used by IDOE are not designed to provide classroom-level, longitudinal information to teachers and administrators.

In order to provide more hands-on data directly to educators, IDOE has used SLDS funding from its current grant to create The Learning Connection, a tool designed to make data available to educators in a secure manner. In addition, The Learning Connection is a tool that allows educators to share lesson plans and lesson tips with other educators, as well as allowing parents to access information from their child's teacher.

The Learning Connection is a Microsoft.NET 3.5 based application that is built using an ASP.NET web application and Web services on top of a SQL server. The Learning Connection consists of three tiers, with layers for Presentation, Services for Business Logic and Integration, and Data Access. The separation of these layers allows for a more secure and flexible system that can be scaled and maintained over time.

Because Learning Connection houses student-level data, security is paramount. A variety of security mechanisms are employed at the endpoints of the Learning Connection architecture to ensure that proper security is applied. All traffic to and from Learning Connection is encrypted using Secure Socket Layers (SSL). User accounts are locked out after three consecutive failed login attempts, and user passwords expire based on a set time interval. Access to sensitive student-level data can be audited by recording information about who accessed the data and when.

Envisioned with the next phase of the project (Learning Connection Phase Two) are further enhancements to The Learning Connection, including adding additional longitudinal data sets (currently, assessment data such as ISTEP+ are in The Learning Connection) and integrating IDOE's electronic IEP system (called ISTART7) into the Learning Connection. IDOE also plans to expand the functionality of Learning Connection to allow districts to upload their own data (such as grade books, district-level assessments, etc.). Funds from the grant will also be used to build analysis tools and custom reporting functions into Learning Connection and add higher education data (obtained through the IWIS project and transcript repository) into Learning Connection.

IDOE also recognizes that simply making data available to educators does not necessarily mean that educators will be able to use data for informed decision making at the classroom and school levels, as well as to differentiate instruction in order to meet student needs. As such, IDOE plans to partner with universities to provide targeted "on the job" training to teachers on using Learning Connection for data-driven instruction and translating that into classroom success. IDOE will also utilize university support to evaluate the effectiveness of Learning Connection in promoting data-driven instruction and increasing student achievement. IDOE has already garnered support from Indiana University (Indiana Business Research Center) and University of Indianapolis (Center for Excellence in Leadership of Learning) and plans to reach out to other organizations and universities as well.

IDOE also envisions creating a certification training process, much like Oregon's DATA project. The Oregon DATA project certification program, according to Oregon DATA Project's Website, "was created for educators interested in teaching others how to use data to improve student

achievement.” IDOE would like to pursue a similar, “train the trainer” model to scale its professional development statewide.

In addition to using Learning Connection to provide secure and FERPA-compliant data to educators, IDOE also recognizes that it must make the aggregated (public) data that it shares more user-friendly, intuitive, and easy to interpret. As such, IDOE plans to enhance its public Website with better querying tools, data that are more clearly defined (including data definitions for data posted on the site and extractable data), and more frequent updates (using data collected through the real-time data exchange). Moreover, by virtue of its e-transcript project, IDOE will be able to provide aggregated postsecondary feedback data to high schools (such as percentage of students at each high school completing one year of college, percentage of students from each high school needing remediation, etc.).

### **Summary of Needs**

In order to link students to teachers, collect and report data on student course completion, increase the accuracy and integrity of IDOE data (including data used for federal reporting), and reduce data reporting burden, IDOE proposes to create an automated, real-time data exchange system. Such a system will not only increase data quality, but will also increase the amount and type of data available to be shared with educators, administrators, researchers, and the public.

In order to achieve all required systems capabilities and requirements of a fully robust and functional SLDS, IDOE must expand its ability to exchange data with institutions of higher education and across those institutions, to examine student preparation for and success in higher education, as well as into the workforce. IDOE’s proposed transcript exchange system and transcript repository, coupled with data collected through automated real-time data exchange, will be leveraged with its current work with Commission for Higher Education and Department of Workforce Development on the IWIS project to enable IDOE’s SLDS to meet this need.

In order to make more and better data available to educators, in a mechanism that promotes data-driven instruction, diploma auditing, and feedback to counselors and teachers, IDOE needs to expand its Learning Connection project to enter Phase Two, which will allow for additional custom reporting, high school feedback reports, and will promote professional development partnerships between researchers and educators. Moreover, IDOE will revamp its public Website to make aggregated data more user-friendly and more up to date by utilizing data obtained through real-time data exchange and adding postsecondary feedback data.

The implementation of these three core elements (automated, real-time data exchange with clearly defined data elements and data models; e-transcript exchange with a transcript repository, reporting capabilities, and diploma auditing; and enhancements to Learning Connection and the public Web) will allow Indiana to achieve all required elements and capabilities of a Statewide Longitudinal Data System.

### **b). Project Outcomes Related to System Requirements and Implementation**

Indiana has worked with a number of stakeholders to determine its objectives for its current proposal. Stakeholders who have been involved in determining both Indiana’s needs, as well as its core elements for the proposed project, include local-level educators; educator associations (such as the state teachers, principals, superintendents, and school boards associations); researchers; policymakers; IDOE staff; and other state agencies, such as the Commission for Higher Education and the Department of Workforce Development.

The ultimate goal of IDOE's project is a P-20 data exchange solution that allows Indiana to achieve its vision to make full use of its P-20 education data system as a tool for informed decision making by all stakeholders, resulting in better K-12 student achievement, increased college persistence and success, and improved workforce readiness and accomplishment for the economy of both Indiana and the nation.

As noted in the needs section, IDOE has broken its project proposal into three core elements, which are the three core outcomes that it expects from its proposed project. The section below describes the objectives of the proposed project for each core element, as well what Indiana expects to accomplish through the implementation of the objectives in terms of full realization of required data system capabilities and required data system elements, as described in the America COMPETES Act. Specific timelines for each objective and core outcome are provided in the subsequent timeline section.

### **Core Element One: Data Interoperability and Statewide Capacity for Automated, Real-Time Data Exchange Between IDOE and Schools**

**Goal:** Automated, real-time data exchange (IDOE can pull data from schools, as well as push data back down) using clearly defined data structures, formats, and definitions, allowing for higher quality data and more timely access to relevant data, as well as decreasing burden around manual data reporting and validation, freeing up district resources to focus on data quality and data usage for student achievement.

Indiana envisions that its real-time project will be implemented in four phases, with the preliminary phase including completion of an RFP and identification of a vendor for the implementation of automated real-time data exchange, as well as identification of pilot districts for implementation of the pilot project. After the preliminary phase has been completed, phase two will focus on increasing capability to 60% of districts; phase three will increase capability to 80% of districts; and phase four will increase capability to 100% of districts. Phase one will be accomplished by the end of year one; phase two by the end of year two; and phase three and four by the end of year three.

**Objective 1:** Utilize information from capacity assessment (described in the needs section) to identify pilot districts for interoperability pilot project, as well as to select districts and vendors for each phase of the real-time project.

**Objective 2:** Release Request for Proposal (RFP) for pilot project; select vendor.

**Objective 3:** Complete pilot project with selected districts and vendors. IDOE estimates that approximately one to three vendors will be selected, representing approximately 40% of Indiana's school districts.

**Objective 4:** Review lessons learned from pilot project and complete phase two implementation with next set of vendors and districts. At the end of this phase, up to 60% of districts are capable of automated real-time data exchange.

**Objective 5:** Implement phase three of real-time project, with 80% of schools and districts capable of automated real-time data exchange at the end of this phase.

**Objective 6:** Implement final phase of real-time project (focusing on independent schools and schools with home-grown student information systems), with 100% of schools having real-time automated data exchange capabilities.

**Requirements and Capabilities Outcomes:** By accomplishing the objectives for Core Element One, Indiana will fully realize required data system capabilities of supporting interoperability by using standard data structures, formats, and definitions; more fully linking student and teacher

data; further ensuring the quality and integrity of data; and increasing the ability of the state to provide timely and accurate data for federal reporting. Moreover, Indiana will meet required data system elements by enhancing its data quality and having more timely access to matched student and teacher records. Automated real-time data exchange will also facilitate access to more timely and accurate data for local-level educators, in addition to timely and accurate data to drive research and policy agendas.

### **Core Element Two: Full Integration of K-12 and Postsecondary Data with E-Transcript Exchange, E-Transcript Repository, and Transcript Standardization**

**Goal:** Student-level transcript data are available for secure exchange; state and local codes are standardized and mapped to SCED; and P-20 data are fully linked through a transcript repository, allowing for quicker, more seamless student transitions, diploma auditing, high school feedback reports, and evaluation.

Indiana envisions that this project will promote seamless transitions for students, especially from high school to college and from college to college. Additionally, Indiana will use data extracted from the transcript repository to enhance its IWIS project (described in the needs section), which is designed to be a data repository with reporting capabilities that links K-12, higher education, and workforce data. The project will be implemented in three phases: objectives one through three will be accomplished by the end of year one; objective four by the end of year two; and objectives five, six, and seven by the middle to end of year three.

**Objective 1:** Vendor to create a full-service electronic transcript exchange system (including transcript repository with reporting capabilities) is identified.

**Objective 2:** Reports to be created from transcript repository are identified.

**Objective 3:** Transcript exchange system and transcript repository are implemented and functional (including reports created).

**Objective 4:** State and local courses are mapped to SCED to standardize transcripts and diploma audit system is created.

**Objective 5:** Data are extracted from transcript repository (K-12 course completion and post-secondary course data); full integration of K-12 and higher education data is achieved, including high school feedback reports and diploma audits. Full integration means that each student record from public postsecondary education can be integrated with K-12 data, to the extent feasible.

**Objective 6:** Integrated higher education and K-12 data are matched with workforce data in IWIS and reports are created.

**Objective 7:** Aggregated postsecondary feedback data are posted on the IDOE public Website (e.g., percent of students enrolled in remedial coursework for each high school, percent of students completing one year of college, etc.).

**Requirements and Capabilities Outcomes:** By completing all objectives of Core Element Two, Indiana will fully achieve the data system capabilities of examining student progress and outcomes over time (especially in higher education and the workforce); facilitating the exchange of data among agencies and institutions within the state; and enabling Indiana with the ability to more accurately meet federal data reporting requirements. Additionally, achievement of Core Element Two objectives will allow Indiana to fully meet data system requirements of P-16 education program participation and completion; linkage with and across higher education data systems; student-level transcript information; and data on student transition to higher education and the workforce.

