

# **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 # R384A100031**

Closing Date: DEC 04, 2009

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**Application for Federal Assistance SF-424**

Version 02

* 1. Type of Submission	* 2. Type of Application:* If Revision, select appropriate letter(s):	
<input type="checkbox"/> Preapplication	<input checked="" type="checkbox"/> New	
<input checked="" type="checkbox"/> Application	<input type="checkbox"/> Continuation	* Other (Specify)
<input type="checkbox"/> Changed/Corrected Application	<input type="checkbox"/> Revision	

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

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

**State Use Only:**

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

**8. APPLICANT INFORMATION:**

\* a. Legal Name: Minnesota Department of Education

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
416007162	933561318

**d. Address:**

* Street1:	1500 Highway 36 West
Street2:	
* City:	Roseville
County:	
State:	MN
Province:	
* Country:	USA
* Zip / Postal Code:	55113

**e. Organizational Unit:**

Department Name:	Division Name:

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

Prefix:	* First Name:	Cathy
Middle Name:		

\* Last Name: Wagner

Suffix:

Title:

Organizational Affiliation:

\* Telephone Number: (651)582-8688

Fax Number:

\* Email: CATHY.WAGNER@STATE.MN.US

**Application for Federal Assistance SF-424**

Version 02

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

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

**10. Name of Federal Agency:**

U.S. Department of Education

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

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

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

072909-0001

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.):**

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

Minnesota Education Data Systems for 21st Century Learning

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: all

\* b. Program/Project: 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	\$ 12411888
b. Applicant	\$ 0
c. State	\$ 925933
d. Local	\$ 0
e. Other	\$ 0
f. Program Income	\$ 0
g. TOTAL	\$ 13337821

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

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

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

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

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

Yes  No

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

\*\* I AGREE

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

**Authorized Representative:**

Prefix: \* First Name: Cathy  
Middle Name:  
\* Last Name: Wagner  
Suffix:

Title: Director - Information Technology

\* Telephone Number: (651)582-8688 Fax Number:

\* Email: CATHY.WAGNER@STATE.MN.US

\* Signature of Authorized Representative: \* Date Signed:

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

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



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

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:  
Minnesota 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	\$ 862,500	\$ 1,665,000	\$ 1,623,750	\$ 0	\$ 0	\$ 4,151,250
2. Fringe Benefits	\$ 284,625	\$ 549,450	\$ 535,838	\$ 0	\$ 0	\$ 1,369,913
3. Travel	\$ 18,000	\$ 18,000	\$ 18,000	\$ 0	\$ 0	\$ 54,000
4. Equipment	\$ 0	\$ 1,050,000	\$ 0	\$ 0	\$ 0	\$ 1,050,000
5. Supplies	\$ 9,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 9,000
6. Contractual	\$ 585,000	\$ 1,700,000	\$ 1,450,000	\$ 0	\$ 0	\$ 3,735,000
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 1,759,125	\$ 4,982,450	\$ 3,627,588	\$ 0	\$ 0	\$ 10,369,163
10. Indirect Costs*	\$ 346,548	\$ 981,543	\$ 714,635	\$ 0	\$ 0	\$ 2,042,726
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 2,105,673	\$ 5,963,993	\$ 4,342,223	\$ 0	\$ 0	\$ 12,411,889

**\*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: 7/1/2009 To: 9/30/2010 (mm/dd/yyyy)

Approving Federal agency:  ED  Other (please specify): \_\_\_\_\_ The Indirect Cost Rate is 19.7%

(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:  
Minnesota 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	\$ 149,250	\$ 186,750	\$ 245,625	\$ 0	\$ 0	\$ 581,625
2. Fringe Benefits	\$ 49,253	\$ 61,628	\$ 81,056	\$ 0	\$ 0	\$ 191,937
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)	\$ 198,503	\$ 248,378	\$ 326,681	\$ 0	\$ 0	\$ 773,562
10. Indirect Costs	\$ 39,105	\$ 48,930	\$ 64,356	\$ 0	\$ 0	\$ 152,391
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 237,608	\$ 297,308	\$ 391,037	\$ 0	\$ 0	\$ 925,953

## 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:** Cathy Wagner

**Title:** Director - Information Technology

**Date Submitted:** 12/02/2009





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

**1. Project Director:**

Prefix:      \* First Name:              Middle Name:              \* Last Name:              Suffix:  
                  John                              L                              Paulson

Address:

\* Street1:              1500 Highway 36 West  
 Street2:  
 \* City:                      Roseville  
 County:  
 \* State:                      MN\* Zip / Postal Code: 55113 \* Country: USA

\* Phone Number (give area              Fax Number (give area  
 code)                                      code)  
 (651)582-8451

Email Address:

JOHN.L.PAULSON@STATE.MN.US

**2. Applicant Experience**

Novice Applicant                       Yes               No               Not applicable

**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:**

**Attachment:**

Title :  
 File :

# Project Narrative

## Project Narrative - Project Abstract

Attachment 1:

Title: **Minnesota abstract** Pages: **0** Uploaded File: **C:\Documents and Settings\crhombs\Desktop\Project Abstract.pdf**

## Project Abstract

The Minnesota Department of Education (MDE) proposes the project *Minnesota Education Data Systems for 21<sup>st</sup> Century Learning* to build upon successes of the state's initial P-12 Longitudinal Data System (LDS), which currently tracks student enrollment, demographics and statewide assessment data. The proposed system improvements will transition Minnesota's education data capacity to a fully interoperable, enterprise-level data collection, reporting and analysis system. These improvements will include solid data sharing connections across multiple state agencies with links among P-12 education, post secondary education, and the workforce to support the continuous improvement of statewide education services and inform policy and practice.

- **System Improvement Goal A:** Upgrade current data collection systems to simplify data reporting, support accountability systems, and meet additional data elements required by the America COMPETES Act. The collected data will be stored in the P-12 LDS warehouse. The outcome for this Goal is the enterprise data collections systems—Student Education Reporting and Viewing Systems (SERVS)—which includes four products: 1) Base Infrastructure, 2) SERVS Student, 3) SERVS Staff, and 4) SERVS Organization.
- **System Improvement Goal B:** Create a second data warehouse to support accurate management and analysis of disaggregated P-20 data. MDE will manage this warehouse through an interagency governance structure. The new, linkable system will include data from P-12, post secondary and the workforce. The outcome for this Goal is a linkable P-20 interagency warehouse, which includes one product: a Statewide Longitudinal Education Data System (SLEDS).
- **System Improvement Goal C:** Expand data analytic tools for educational research and evaluation to improve student academic achievement and close the achievement gaps. The outcome for this Goal is analytic portals, which includes two products: 1) an extended Educator Portal and 2) the P-20 Research Portal.

Minnesota's current P-12 LDS includes nine of the twelve data elements required in the America COMPETES Act. The proposed System Improvement Goals address the three remaining elements—1) linking teachers to courses to students, 2) end of course completion information and 3) student transition from P-12 to post secondary data. By adding these three elements, Minnesota will meet the requirements of the Race to the Top Application as well as the four assurances of the State Fiscal Stabilization Fund Application.

MDE's work partners on this project include the Office of Higher Education, Office of Enterprise Technology, Department of Employment and Economic Development, as well as the P-20 Education Partnership and the State Advisory Council on Early Childhood Education and Care.

The activities proposed in this grant application align with Minnesota's newly developed Education Performance Vision and the state's Ten Policy Initiatives to support continuous instructional improvement and informed decision-making at the school, district and state levels.

# Project Narrative

## Project Narrative - Project Narrative

Attachment 1:

Title: **MN Project Narrative** Pages: **0** Uploaded File: **Minnesota Education Data Systems for 21st Century Learning.pdf**

## Project Narrative

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

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The proposed grant project, *Minnesota Education Data Systems for 21<sup>st</sup> Century Learning*, builds upon initial successes of Minnesota's current P-12 Longitudinal Data System (LDS), which tracks student enrollment, demographics and statewide assessment information over time. When fully implemented, the system improvements described in this grant proposal will transition Minnesota's education data capacity to a fully interoperable, enterprise-level data collection, reporting and analysis system. These system improvements will incorporate solid data sharing connections across state agencies. Links among P-12 education, post secondary education, and the workforce will support the continuous improvement of statewide education services and inform policy and practice.

- **System Improvement Goal A:** Upgrade the current Minnesota Department of Education (MDE) data collection systems to simplify data reporting, support accountability systems, and include additional data elements to meet reporting timelines set forth in the America COMPETES Act. Local education agencies (LEAs) will report linkable student, teacher and organization information through new P-12, enterprise-level, data collection software—the Student Education Reporting and Viewing Systems (SERVS). Information collected through SERVS will be stored in the P-12 LDS.
- **System Improvement Goal B:** Create a second data warehouse managed by MDE through an interagency governance structure to support accurate management and analysis of disaggregated P-20 data. The new P-20 warehouse will include data from P-12, post secondary and the workforce in a linkable Statewide Longitudinal Educational Data System (SLEDS).
- **System Improvement Goal C:** Expand data analytic tools for educational research and evaluation to improve student academic achievement, close the achievement gaps and inform decision making at the school, district and state levels. The existing analytic tool, P-12 Educator Portal, will be extended and a new tool, the P-20 Research Portal of Minnesota (P-20 RMP) for SLEDS will be created. Together these analytic portals will be a clearinghouse for education research.

The work of this grant proposal extends existing system features without supplanting any current funding or policy initiatives.

#### **Minnesota's Longitudinal Data System—Current Capabilities**

Minnesota, with funds from a 2006 IES Longitudinal Data Systems Grant, completed nine of the 12 foundational data elements required in the America COMPETES Act:

- Our MARSS ID is a randomly generated, unique P-12 student identifier.
- Student-level enrollment, demographic and program participation data are available in the P-12 data warehouse.
- Data sharing agreements and shared governance structures permit communication and data exchange between P-12 and higher education systems.

- Our web-based collection systems enforce edits at the time of collection and provide the basis for data audits by various program areas.
- We have published disaggregated student level assessment scores since 1998.
- Our annual School Report Card for individual schools and districts within the state includes information on students not tested by grade and subject.
- We began collecting selected transcript data on all high students, including GPA, class rank and non-standard passing information for students on state assessments in 2009.
- Our unique teacher identifier will make it possible to expand current systems enabling linkages between teachers, students, courses and course outcome data.
- We began publishing College Readiness Scores on each district's annual School Report Card in 2009.
- We publish a variety of statistics that address alignment and adequate preparation for postsecondary education success including participation information and the number of students considered college ready on ACT tests.

With this exceptionally strong foundation, we will make optimum use of funds requested in this grant proposal. The 2006 IES Longitudinal Data Systems Grant enabled us to develop the following features of the MDE LDS:

A best-in-class data dictionary: Minnesota's data dictionary has been shared with other states as a national model for education agencies. This common set of definitions and meta-data structures has been used department-wide for the past three years to facilitate inclusion of data in the warehouse and its use in subsequent analytics. This model, using extensible mark-up language (XML), will enable future interoperability with LEAs and simplify the process for making education data transparent.

Longitudinal warehouse: The P-12 warehouse is the core of our enterprise data infrastructure and includes analytic cubes based on the design of the National Center for Education Statistics Handbooks On-line domain data model. To date we have focused on incorporating existing P-12 data elements needed for accountability and reporting. We have developed extract, transformation and load (ETL) software for adding those data into the LDS.

A School Interoperability Framework (SIF) compliant enterprise data model<sup>1</sup>: Our enterprise data model (EDM) is organized around SIF modeling objects in an XML based structure that facilitates exchanges among internal MDE applications and external LEA applications. The model supports the collection and reporting of all information associated with student, teacher and organizations. Views from these multiple perspectives eliminate the need for redundant data collection. A student perspective shows the school where a student is currently enrolled, the classes this student is taking, classes taken at any previous schools as well as current and past test scores. Those same data elements can be seen in a teacher view showing which students are currently assigned to the teacher, the courses currently teaching, the preparation institution the teacher attended as well as test results associated with students taught in prior years. With much of the design work already completed, we are positioned to quickly integrate remaining and new data sets into the enterprise data model.

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<sup>1</sup> Documentation on our EDM is included in Appendix D.

Ed Facts data repository: Data is stored in the P-12 data warehouse providing a consistent, interoperable source for accountability, growth, disciplinary incidents and school finance information for Ed Facts reporting. These same data are used to validate the No Child Left Behind Consolidated Application and Minnesota's Annual Performance Report for Special Education.

Data Record Linking System (DRLS): Despite the fact that Minnesota has had unique teacher and student identifiers since 1998, our legacy stove piped systems were not interoperable. Each could have slightly different information in the identification key for the same student or teacher resulting in duplicate records when merged in the LDS. For example, a student could be reported as Dave M. Onsrud in one collection but as David O. Onsrud in a subsequent collection in another district. A unique identification number could be one digit off between two records. Are these the same or different students?

DRLS software was developed to solve this problem. It uses a series of algorithmic routines facilitating the match of unit records prior to inclusion in the warehouse. DRLS maximizes the accuracy of data transitioned into a longitudinal system by eliminating the potential for inadvertent record duplication. This is a particularly exciting tool as we look to the next phase of the LDS since many external data sets such as those from ACT and the College Board do not use the same identification keys. Without DRLS, we would be restricted to including only sets sharing our unique identifiers, thereby limiting our functional capacity. DRLS will be instrumental for successfully including postsecondary and workforce data in our P-20 LDS.<sup>2</sup> With funding from this proposal, we will expand DRLS capacity with common off-the-shelf tools (COTS) from business intelligence vendors to create seamless operational linking for all P-20 data from a variety of Minnesota state agencies.

Identity Management System: The MDE Identity Management System (MIDMS) is an industry-standard, role-based security framework designed to protect the privacy of sensitive data while providing appropriate access for approved users. The ORACLE Access Manager based architecture has a distributed security model that allows LEAs or postsecondary institutions direct control over which staff have authorization to secure web pages thus permitting parents, teachers and administrators differentiated access while allowing for maximum protection of student privacy. Our current technology supports the capacity for districts to approve and retain authorized users while maintaining the highest standard of security. With MIDMS, we can include additional early childhood, postsecondary education data and workforce data elements while preserving the privacy of individual students according to FERPA and Minnesota data practices laws.

Analytic portal: The Educator Portal has become a one-stop website for educators to analyze aggregate or individual student level data in the P-12 LDS. All assessment and accountability results are loaded into the portal as soon as they arrive from the testing company allowing district review, verification and approval prior to the official public release. Data in the Educator Portal answers policy and program questions using disaggregated information about schools and

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<sup>2</sup> White Paper: Creating Student Information from Legacy Record Systems Using Probabilistic Record Linking, John L Paulson, CIO MDE 2008 in Appendix D.

districts. Analysis can be performed based on gender, race ethnicity, socio-economic status and program participation. Authorized users may also access individual student unit record data. District staff can view all district data, data from a single school, or data for a specific group of students.

Analytic options for state assessment results, Minnesota Growth Model analysis, NCLB accountability, and Safe and Healthy Learners can be viewed by county, district, school or individual student while maintaining strict privacy and data security measures. It is secured by our single sign-on, role-based identity management system, and we are ready to add additional customized data analysis tools needed to engage classroom teachers in real time data analysis to impact instructional changes. This design is robust enough to include local assessment information when conforming to uniform data structures.<sup>3</sup>

Data sharing agreements and governance structures: Our work over the past five years with the P-20 Partnership has culminated in an innovative interagency governance structure that sets a foundation for sharing significant educational data among P-12, higher education and workforce organizations. The Minnesota Legislation passed a law authorizing data exchanges between MDE and the Office of Higher Education. Data sharing agreements between the two state agencies have been signed. This places Minnesota in position to move quickly ahead to the next generation of linked data systems encompassing early childhood, P-12, postsecondary and workforce information.<sup>4</sup>

### **Highlights of Minnesota's P-12 LDS System in Development**

The following capabilities of the LDS system were begun with support from our 2006 award and are in development:

Student Roster Pilot: The Student Roster is intended as an additional tab within the Educator Portal allowing authorized users to create a group of students for data analysis by entering the unique student identifiers into a secure web search. Researchers can then select associated data elements from the warehouse regardless of which districts or schools the students attended at the time of data collection. For example, researchers can use this tool to compare students who take science, technology, engineering and mathematics with those who do not take similar courses. It is equally possible to create a teacher-centric view of these same data.<sup>5</sup>

With input from the Data Management Steering Committee, we are ready to bring this pilot to scale statewide for immediate use in school improvement analysis and planning in the next phase of our LDS. There are substantial challenges in training educators on the appropriate use of this

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<sup>3</sup> Educator Portal screen shots can be found at:

<http://education.state.mn.us/mdeprod/groups/NCLB/documents/Manual/031960.pdf>

<sup>4</sup> The complete Statewide Longitudinal Education Data System Charter document including statutes, data sharing agreements and list of initial "seed" data for the interagency warehouse is included in Appendix D

<sup>5</sup> Minnesota Department of Education Website:

[http://education.state.mn.us/MDE/Learning\\_Support/School\\_Technology/Data\\_SIG/index.html](http://education.state.mn.us/MDE/Learning_Support/School_Technology/Data_SIG/index.html)

tool. This grant proposal includes the development of training materials, and we intend to leverage resources requested in the Race to the Top Proposal that will be allocated to professional development, including the utilization of data coaches who will work with participating schools.

Business intelligence tools: Information Builders, Inc. is a market leader among business intelligence tools enabling Minnesota to meet its policy initiatives by creating more “canned” or “on-demand” reports. The next phase of development will leverage this initial investment of LDS funding by providing additional custom data analytics in program specific tabs within the Education Portal or the through the publicly available School Report Card.

For a summary of the status of the capabilities and elements of Minnesota’s LDS, please refer to Appendix C.

### **Highlights of Capabilities to be added for Expanded P-12 and P-20 LDS Capacity**

While Minnesota has made great progress toward the goal of a fully integrated, statewide data system, we must add capacity to meet new federal data collection requirements and ease the reporting burdens for LEAs these additional collections necessitate. We intend to pilot new automated data exchange processes with selected districts and states as we begin to collect the additional data required by the America COMPETES Act.

Interoperable Data Exchanges: Our long-range vision is to support SIF compliant, interoperable data exchanges to simplify the process of reporting and collecting new data elements.

*District Pilot:* With over 500 districts ranging in size from 10 to 40,000<sup>6</sup> students, the sophistication of data management capacity varies greatly. Some districts will prefer to manage data in-house with web-based submissions via SERVS. Others will prefer more state of the art, automated processing. With funding from this grant proposal, we will conduct a SIF pilot with two of the larger districts in the state and two data management vendors to determine the feasibility of bringing this effort to scale statewide.

*Multi- State Pilot:* The lessons learned from the Minnesota SIF pilot will inform a seven-state SIF Pilot. Minnesota is partnering with Missouri, Iowa, Kansas, Nebraska, North Dakota and South Dakota to implement a secure, SIF standards-based, student record exchange solution dependent upon a state student ID management system. The Student Locator Framework (SLF) provides seamless interoperability among student information systems installed at each district and the state ID management systems. As students enroll in districts, student IDs are automatically created by the state ID management systems, stored in each state’s student information system and transmitted back to local districts over a secure SIF transport. These seven states are collaborating to leverage each other’s work in the area of student re-enrollment in and graduation from K-12 systems to improve local data quality. There is also interest within the group to develop an educator locator.

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<sup>6</sup> Minnesota Department of Education Website: <http://education.state.mn.us/mde/index.html>

America COMPETES Act: These three elements of the America COMPETES act must be implemented to meet the application requirements for this grant proposal:

- Ability to link teachers to courses to students.
- End of course completion information including student grades earned by course
- Data regarding student transition from P-12 to postsecondary including remediation information

*Linking teachers to courses to students:* Based on work done by the National Center for Education Statistics on the Secondary School Course Classification System: School Codes for the Exchange of Data (SCED), we are creating a universal index of all courses taught in Minnesota schools. The Minnesota Common Course Catalogue (MCCC) is scheduled for completion in 2011 and will allow teachers to be linked to students through courses using currently existing unique teacher and student identifier codes.<sup>7</sup>

Beginning in the summer of 2010, school districts will access the MCCC web site and identify which MCCC course descriptions best match the local courses the district offers. Once districts have identified the MCCC course numbers for their local offerings, they will specify the Carnegie units, level of rigor and sequence for each course. This information will be reported to MDE in the expanded SERVS data collection systems identified in System Improvement Goal A listed on page one of this proposal.

Student data will include courses taken, the specific course section, the time of day courses were taken, and grades earned. Staff records identify specific courses taught through a unique course number associated with a unique teacher identifier. This information will include section numbers for courses and the period of day each section is taught. School organization data collections will include numbers for all courses and sections offered at the site including the periods of the day when specific sections are offered. This information will be combined in the P-12 LDS allowing students to be linked to teachers for a variety of research and evaluation purposes. Analysis will be conducted through expanded dashboards in the Educator Portal identified in System Improvement Goal C listed on page one of this proposal.

*Course Completion Information:* End of course completion information as well as other transcript elements will be collected in the new enterprise student data collection system, SERVS Student. Districts currently report GPA, class rank and a series of non-standard scores on large scale assessments, such as Pass Individual for special education students as well as three-year LEP exemption status for students who are new to English speaking classrooms. This information will be expanded to include courses taken, grades earned and other information generated from the MCCC project. Focus groups will identify further transcript elements to be included in the SERVS Student collection.

*Student Transitions from P-12 to Post Secondary:* Our vision for the Minnesota P-20 data system requires establishing links across a variety of state agency data sets. These cross-agency connections will be accomplished in a new P-20 Statewide Longitudinal Data Warehouse

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<sup>7</sup> An expanded summary of the MCCC project is included in Appendix D.

(SLEDS) that will incorporate data from different sources as approved by the SLEDS governing body. P-12 data will come from MDE. Post secondary data will be coordinated through the Office of Higher Education (OHE). Data about the workforce and labor will come from the Department of Employment and Economic Development (DEED). The SLEDS warehouse will be hosted by the Office of Enterprise Technology (OET) at the State Data Center. Service level agreements between MDE, OHE, DEED and OET will facilitate the joint data management responsibilities and secure access to this anonymized research data.<sup>8</sup>

### **Related Federal Legislation**

By adding the three remaining elements of the America Competes Act, the System Improvements described in this grant proposal will provide the data system foundation needed to meet the requirements of both the State Fiscal Stabilization Fund Application and the Race to the Top Application as detailed in guidance for the American Recovery and Reinvestment Act.

#### State Fiscal Stabilization Fund Application Requirements

This grant proposal includes the System Improvements necessary to expand current data capacity to meet each of the four Stabilization assurances as summarized below:

*Assurance 1- Improving Collection and Use of Data:* requires a longitudinal data system with links among teachers, courses and students that provides individual teacher information on student performance including estimates of teacher effect. There are no political barriers to implementing these outcomes.

*Assurance 2-Achieving Equity in Teacher Distribution:* requires states to ensure that highly qualified teachers are teaching in the highest need schools. The linked teacher-student data and expanded licensure information planned for addition to the LDS combined with enrollment and achievement data will accurately pinpoint distribution of teachers in high need districts and provide information for system evaluation.

*Assurance 3-Standards and Assessments:* requires reporting of information on the number and percentage of students with disabilities and limited English proficiency who are included in state reading and mathematics assessments, the most recent NAEP results and the number and percentage of students who graduate from high school using a four-year adjusted cohort graduation rate. This information is currently published on our School Report Card. With funding from this grant proposal, we will expand to include the number of students who enroll in an institution of higher education and those who complete at least one-year's worth of college credit within two years of high school graduation.

*Assurance 4 - Supporting Struggling Schools:* requires Minnesota to add information on struggling schools to the School Report Card web site. We currently identify the number and percentage of schools in Needs Improvement, Corrective Action, or Restructuring and highlight schools in which students made improvement on state assessments in reading and mathematics during the previous year. The School Report Card also identifies the number of charter schools currently operating as well as those that have closed including the reasons for closing, such as financial, enrollment, or academic. With additional funding requested in Minnesota's Race to

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<sup>8</sup> A Sample Service Level Agreements is included in Appendix D.

the Top Proposal, we will identify and summarize the number and percent of all schools in the lowest five percent of student achievement on state reading and math assessments that have turned around, consolidated or closed in the previous year.

### Race to the Top Proposal

Aspects of each strategy in the Minnesota Race to the Top (RTTT) proposal depend on the improved data system capacity described in this grant proposal. All nine RTTT strategies are listed below. The specific LDS System improvements required for successful implementation of that strategy are underlined.

*Strategy 1 - Standards and Assessments:* We will provide enhanced analytics to support programming that addresses the achievement gap by joining the Common Core Consortium to improve the translation of standards into the classroom.

*Strategy 2 - Data Systems:* All activities outlined in this grant proposal will be submitted as requirements for the successful implementation of the RTTT proposal to ensure improved statewide availability and use of P-20 longitudinal data among diverse stakeholders to drive greater understanding of how to increase student achievement.

*Strategy 3 - Alternative Pathways:* Additional teacher licensure data will be included in the P-12 LDS with funding of this grant proposal.

*Strategy 4 - Differentiating Performance:* A comprehensive professional evaluation system that empowers and incents effective drivers of student achievement based on value-added metrics will be created. These metrics will use linked student-teacher data in combination with licensure information provided by the LDS.

*Strategy 5 - Expanded Resources for Peer Review and Assistance:* The RTTT proposal will provide funds for training and support for LEAs to use the data and analytic tools developed through funds from this grant proposal.

*Strategy 6 - Equitable Distribution:* The expanded SERVS data collections will provide Minnesota with information to gauge accurately the distribution of highly qualified teachers. Unique identifiers will be used to link teachers along with their licensure information to the students they teach. These linked data elements in combination with student demographic variables can be used to compute equitable distribution rather than relying on the current self-reporting by LEAs.

*Strategy 7 - Improve Prep Programs:* The comprehensive statewide longitudinal data system will link teachers and principals to their credentialing program and allow Minnesota to report publicly those data each year by pathway, subject and level.

*Strategy 8 - Supporting Teachers and Principals:* The new analytic tools will be used by data coaches supported with RTTT funding to foster a data-driven culture through the constructive use of student and school performance data by teachers and principals.

*Strategy 9 - Turnaround Struggling Schools:* Evaluation systems developed with expanded data and analytic tools will be instrumental in tracking strategy components and effectiveness of school improvement.

### **Minnesota's Education Performance Vision**

While Minnesota students post the highest ACT scores in the country, we also have one of the largest achievement gaps for students of color. The average proficiency rate on state mathematics exams is 63 percent for all students compared to 44 percent for Hispanic and 32 percent for African American students.<sup>9</sup> For the past five years only 32 percent of ACT test takers scored college ready in all four subject areas—English, reading, mathematics and science.<sup>10</sup> Almost half of the Minnesota's class of 2005 students enrolled in a Minnesota public institution of higher education within two years of their high school graduation, but of that group, 38 percent took one or more developmental courses.<sup>11</sup>

Minnesota envisions reshaping education with an emphasis on college and career readiness as well as teacher quality. The Governor's Education Council has identified six indicators (see list below) to serve as ten-year benchmarks for success. Beginning in the 2010 school year, the Minnesota School Report Cards will report the following for individual school districts:

1. Percentage of students completing a college- and career-ready course of study
2. Percentage of students at the college- and career- readiness level on anchor assessments
3. Percentage of students obtaining college credit or a meaningful career certificate in high school
4. Percentage of high school graduates based on National Governors' Association cohort graduation rate data
5. Percentage of high school graduates who enroll in postsecondary education within two years.
6. Percentage of traditional first-year college students not requiring enrollment in any developmental course

A series of regional focus groups of educators, school administrators, legislators, business partners and teacher union members was held in the fall of 2009 to review Minnesota's education performance. Feedback from these groups confirmed Minnesota's Education Performance Vision and identified aspirations based on closing the achievement gap, ensuring high student achievement compared to international benchmarks, ensuring quality and accountability in the classroom, and elevating the teaching profession. These regional groups

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<sup>9</sup> Minnesota School Report Card 2009 MCA II results for Mathematics for all students tested:  
<http://education.state.mn.us/index.html>

<sup>10</sup> ACT State Profile Report, Graduating Class 2009, Minnesota

<sup>11</sup> Getting Prepared: A 2008 Report on Recent High School Graduates Who Took Developmental/Remedial Courses Minnesota State colleges and Universities, and University of Minnesota

were aware of current data capacity and supported expanding capacity to provide additional educational services for LEAs.<sup>12</sup>

### **Ten Policy Initiatives Driving the Expansion of Current LDS Capacity**

Minnesota is currently supporting ten major policy initiatives sponsored by MDE, the Bush Foundation, the Joyce Foundation and the P-20 Council. These policy initiatives comprise the key business drivers of this grant proposal. They align with stakeholder feedback and the requirements of the Stabilization Application. Four of the ten initiatives are priorities in Minnesota's Race to the Top proposal. All initiatives represent concrete steps needed to support continuous instructional improvement and informed decision making at the school, district and state levels consistent with Minnesota's Education Performance Vision. Expanding existing LDS data elements and making use of new data linkages with higher education and the workforce are essential to the achievement of the initiatives.

The design work for some of these initiatives is being funded outside of this grant proposal, while the design for others is fully funded through this grant. All ten of the initiatives summarized below rely on expanded data collection and reporting developed through funds from this grant proposal. Text boxes highlight key associations between each initiative and the elements in the America COMPETES Act or the requirements of the LDS. Full descriptions of all ten initiatives are included in Appendix D.

Initiative 1–Start Early: Information about preschool students is currently limited to those who receive early childhood special education services, which is less than three percent<sup>13</sup> of the total preschool population. Start Early will add enrollment and demographic data to the P-12 LDS from additional public school programs for preschool children—Early Childhood and Family Education, School Readiness, and Head Start. These data will include information about the specific program site or organization enrolling students and the teachers providing services at those sites. Data on kindergarten students will be expanded to include test results from the Work Sampling System® Kindergarten Entry Developmental Checklist. Districts will use this information to evaluate their programs and support them in understanding the impact of early childhood services on elementary education. The Start Early Initiative is sponsored by the Governor's Early Childhood Advisory council.

<b>America COMPETES Act–Element 3</b> Student level information about the points at which students exit, transfer in, transfer out, drop or complete P-16 programs.
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*Funds from this grant proposal will support the development of an Early Childhood analytic dashboard in the Educator Portal as described in System Improvement B with additional data elements to be identified and collected as part of System Improvement A of this proposal.*

Initiative 2–Effective Teacher Preparation: The Minnesota Board of Teaching is redesigning the teacher preparation program approval process. A results-oriented focus on candidate competency and monitoring alternate pathways to licensure based on special permissions will begin in fall 2010. Candidate competence will be measured through the following:

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<sup>12</sup> A complete schedule of focus groups and lists of attendees is included in Appendix D.

<sup>13</sup> MARSS Data Collection 2009, MDE Web Site: <http://education.state.mn.us/mde/index.html>

**Longitudinal Data System Requirement 4**

The system must enable the matching of teachers with information about their certification and teacher preparation programs including the institutions at which they received their teacher training.

- *Work Sample*: Candidates will complete a work sample defined as direct evidence of the candidate's ability to design and implement standards-based instruction and assess student learning.
- *First Year Teacher Survey*: All first year teachers must take this survey based on the Standard of Effective Practice for Teaching and designed by the Minnesota Teacher Education Research Consortium
- *Employer Survey*: This survey, taken by the employers who hire teachers from a Minnesota teacher preparation institution, is similar to the first-year teacher survey. It is based on the ten Standards of Effective Practice and was designed and tested by the Minnesota Teacher Educational Research Consortium.
- *Minnesota Teacher Licensure Examinations*: Test score data from the examinations will provide information not only on passing rates but also on strand scores within content area tests.

*All development of testing and survey instruments will be supported outside this grant proposal. Data will be collected through new enterprise collection systems SERVS Staff and SERVS Organization described in System Improvement A of this proposal. Data will be displayed in a secure Teacher Preparation analytic dashboard in the Educator Portal and the P-20 Research Portal of Minnesota described in System Improvement C of this proposal.*

Initiative 3–Shared Stakes - Shared Accountability: Minnesota is grappling with the issue of student motivation versus the validity of test results as we develop end of course exams. Test scores will be used in assigning final grades for courses where the exam subjects are taught by local districts. A passing grade in these courses will be required for graduation. While this solves the issue of high stakes decisions based on a single event test, it creates the potential for grade inflation. No matter how poorly a student does on the end of course exam the remaining components of the course grade always seem to balance the exam results.<sup>14</sup> With Shared Stakes–Shared Accountability, Minnesota will publish not only the end of course exam results as required under NCLB but also corresponding course grades for those subjects. These data will be used to compare the distribution of course grades to statewide distributions of scores from the state end of course exams and enable divergent schools to review and voluntarily change their grading practices. Stakeholders will establish performance expectations for the end of course exams that align with college and career readiness, and grades from each school will be analyzed against these expectations.

**America COMPETES Act Element 9**

Student-level transcript information including courses taken and grades earned.

*Funds from this grant are intended to support the collection of course-taking data elements as part of System Improvement A and the development of a secure Shared Stakes analytic dashboard in the Educator Portal described in System Improvement C.*

<sup>14</sup> HumRRO study of alignment of instruction to the California High School Exit Examination (CHASSE) content standards (HumRRO <http://www.humrro.org/corpsite/node/76>).

Initiative 4–RACE TO THE TOP PRIORITY- Q Comp: The Minnesota Legislature enacted Q Comp legislation in July 2005. This voluntary program requires districts and charter schools along with teacher representatives to design and collectively bargain a district or school level plan that includes: 1) Career Ladder/Advancement Options, 2) Job-embedded Professional Development, 3) Teacher Evaluation, 4) Performance Pay, and 5) An Alternative Salary Schedule. Q Comp plans must show how prescribed professional development will increase student achievement. Pay increases must be tied to teachers’ ability to improve student achievement during the academic year. Districts receive \$260 per student (\$169 per student in state aid and \$91 per student in board-approved levy) for approved Q Comp plans. Currently, 45 districts and 32 charter schools are participating in the school year 2009-10. Minnesota’s Race to the Top strategy is to expand Q Comp to all districts by 2011.

**Longitudinal Data System Requirement 3**  
The system enables the matching of teachers and students identifying particular teachers primarily responsible for providing instruction in various subjects.

*Funds from this grant will support the collection of additional data elements as part of System Improvement A for use in comparable statewide teacher evaluation systems. Data will be displayed in a secure Teacher Evaluation analytic dashboard in the Educator Portal described in System Improvement C of this proposal.*

Initiative 5–M<sup>2</sup>D<sup>3</sup>: The Minnesota Model for Data Driven Decisions (M<sup>2</sup>D<sup>3</sup>) provides a common language of data-driven decision making across the state among policy makers, continuous improvement teams, and classroom teachers. Based on a five-stage model developed in collaboration with Mid-continental Regional Educational Laboratory (McREL), this initiative relies on data currently available in the P-12 LDS. Local data coaches, supported by the Race to the Top funds, will use this model in struggling schools to assist teachers and principals in learning effective uses of data to improve instruction. This vision includes an on-line tool for planning purposes and incorporates data directly from the LDS.

**Longitudinal Data System Requirement 5**  
The system must enable data to be easily generated for continuous improvement and decision-making, including timely reports to parents, teachers and school leaders on the achievement of their students.

*An M<sup>2</sup>D<sup>3</sup> web-based dashboard is planned for inclusion in the Educator Portal in System Improvement C of this proposal.*

Initiative 6–RACE TO THE TOP PRIORITY-The Minnesota Early Indicator Response System (MIERS): The MIERS indicators were developed with stakeholder input from Minnesota public schools, the University of Minnesota, Minnesota State Colleges and Universities, and Minnesota Technical Colleges. They include data elements such as attendance, suspension, number of failing grades or lack of credit accumulation and college readiness scores from ACT’s Educational Planning and Assessment System exams (PLAN and EXPLORE). Indicators are used to identify students who are off-track for college and career readiness or at risk of not graduating on time from high school. This initiative will be used in the Race the Top Strategies to turn around struggling schools.

**America COMPETES Act Element 10**  
Student level transcript college readiness test scores.

*Funds from this grant are intended to support the definition and collection of additional data elements as part of System Improvement A of this proposal. They will be displayed in an analytic dashboard in the Educator Portal and the P-20 Research Portal as part of System Improvement C.*

**Initiative 7–Access to Advanced Placement for High Risk Students:** Minnesota received a \$4.5 million Advanced Placement (AP) Incentive Program Grant from USDOE, to create a statewide AP access system for at risk students. In 2007, less than one percent of Minnesota students in the two largest urban public school districts with high numbers of at risk students passed an AP exam. This initiative will target specific schools with high numbers of low-income students to increase participation in AP courses, increase the numbers of students who take AP tests and improve the scores in English, math, science and critical languages. The goal is annual increases of ten to sixteen percent on all three measures. The success of this effort is dependent on the inclusion of AP data in the P-12 warehouse. AP exam scores and AP course-taking results in combination with state test scores will be published in a dashboard in the Educator Portal.

**America COMPETES Act Element 11**  
Data that provide information regarding the extent to which students transition successfully from secondary to postsecondary education including whether students enroll in remedial coursework.

New data elements identified as part of this project will come from other college-readiness data sources including scores from ACT Educational Planning and Assessment System tests (PLAN and EXPLORE), Advanced Placement test results, College Level Examination Program test results and course-taking information.

*While the development of indicators to support this effort will be accomplished through the Advanced Placement Grant funding, a dashboard planned for the Educator Portal will depend on LDS data collected as part of this grant proposal through System Improvement A.*

**Initiative 8–RACE TO THE TOP PRIORITY- Value-Added Teacher Evaluation:**

The Bush foundation is funding an ambitious set of projects to reform teacher preparation programs across Minnesota. At the core of this work are value-added metrics based on high stakes and local test scores linked to course grades and teachers. With assistance from the Value-Added Research Center (VARC) these results will provide local feedback on classroom, grade, school and district productivity. Of equal importance will be the use of value-added data to evaluate the effectiveness of teacher preparation programs. Both data sets will be available in the P-12 warehouse for use in Minnesota schools. This initiative is included in the section on Differentiating Performance in the Race to the Top Application. The vision is to institute a comprehensive, statewide longitudinal data system that links teacher and principal effectiveness to their credentialing program and publicly reports the aggregated results by program, pathway, subject and level each year.

**Longitudinal Data System Requirement 4**  
The system must enable the matching of teachers with information about their certification and preparation programs including the institutions at which they received their training.

*Funds from this grant proposal are intended to support the definition and collection of additional data elements as part of System Improvement A. The data will be displayed in an analytic dashboard in the Educator Portal as part of System Improvement C.*

Initiative 9–RACE TO THE TOP PRIORITY- The P-20 Research Portal of Minnesota (P20 RPM): The P-20 RPM is envisioned as a clearinghouse for identifying best practices through shared data within Minnesota. It will provide access to data for research on predictors of long-term student success to define “what makes a difference” in the academic experiences. The intention is to link data on the approximately 40,000 graduates from the P-12 systems who attend a Minnesota postsecondary institution at the undergraduate level.<sup>15</sup> The P-20 RPM will document student, school, and college performance to address questions about Minnesota’s investment in education. Data from public and private institutions of higher education and the Department of Employment and Economic Development<sup>16</sup> will be maintained in a linkable statewide education longitudinal data system (SLEDS). Research in three primary areas is facilitated by accessing SLEDS data in the P20 RPM. Those areas are:

**America COMPETES Act Element 10**  
Student level transcript college readiness test scores.

1. *System Performance Analysis* focused on the overall educational system, identifying aggregate performance at key points in time.
2. *Educational Attainment Gap Analysis* based on the performance of students defined by their demographic, socio-economic or geographic characteristics.
3. *Program and Intervention Analysis* designed to improve student educational attainment using evaluation of educational programs and interventions.

*This initiative is part of System Improvement C of this proposal and the data display and analytic tools are funded entirely through this grant proposal. Data from the P-20 Statewide Education Longitudinal Data System warehouse developed in System Improvement B will be used to populate this portal.*

Initiative 10–Transition from School to Workforce: Data on the transition from school to the workforce is envisioned as a separate section of the P-20 Research Portal of Minnesota. The Joyce Foundation and the State of Minnesota are collaborating on the Minnesota FastTRAC (Training, Resources and Credentialing) initiative. FastTRAC aims to build a statewide “stackable credentials” framework through coordinated programming and policy alignment across Adult Basic Education, the Work Force Center System, the Minnesota State College and University System, and community-based training and employment service organizations. Funds from the American Recovery and Reinvestment Act and Minnesota’s Workforce Investment Act Incentive have been dedicated to develop the FastTRAC framework. Data from those performance measurement activities will be included in

**Longitudinal Data System Requirement 1**  
The system must enable states to examine student progress and outcomes over time, including student’s preparation to meet the demands of post secondary education, the 21st century workforce, and the Armed Forces. Such a system must include data at the individual student level from preschool through post secondary education into the workforce (e.g., employment, wage and earnings information).

<sup>15</sup> Minnesota Office of Higher Education. (2009). *College Participation Rates*. Retrieved 24 Nov 2009. <http://www.ohe.state.mn.us/mPg.cfm?pageID=753>

<sup>16</sup> Plans for DEED data are included in Appendix D.

SLEDS to enable Minnesota to identify labor market payoffs as a result of this effort. Data from the Adult Basic Education Program will be included in the P-12 LDS.

*Adult Basic Education data elements will be stored in the P-12 warehouse as part of System Improvement A. All post secondary and workforce data elements will reside in the P-20 Statewide Longitudinal Education Data System warehouse as part of System Improvement B of this proposal and displayed in the P-20 Research Portal of Minnesota as part of System Improvement C.*

### **Project Partners**

Minnesota's Education Performance Vision relies on a comprehensive P-20 system with linked data collected from multiple state agencies. MDE is partnering with six other Minnesota organizations including three cabinet-level state agencies to share, link and manage P-20 education and workforce data sets needed to support the Ten Policy Initiatives in Minnesota's Education Performance Vision.

- Minnesota Office of Higher Education (OHE) is a cabinet-level state agency providing students with financial aid programs and information to help them gain access to postsecondary education. OHE collects unit record data on students enrolled at public and private institutions of higher education and will join MDE on the oversight of the P-20 Statewide Longitudinal Education Data System
- Office of Enterprise Technology (OET) provides the leadership and services to improve government through the effective use of information technology. OET will house the SLEDS warehouse and provide secure access to authorized users while protecting the privacy of the data in this cross-agency repository.
- Minnesota P-20 Education Partnership consists of major statewide education groups and non-educational organizations with an interest in P-20 education. The Partnership, now recognized in state statute, will serve as the Governing Body for the P-20 SLEDS warehouse. The Partnership was established to maximize achievement of all students from early childhood through elementary, secondary, and postsecondary education.
- Department of Employment and Economic Development (DEED) is the state's principal economic development agency with programs promoting workforce development, international trade, and community development as well as business recruitment, expansion and retention. DEED will provide unit record workforce and labor data for the P-20 SLEDS warehouse.
- State Advisory Council on Early Childhood Education and Care makes recommendations to the Governor and legislature. The Council will collaborate with MDE to expand data collection for early childhood providers to better understand the impact of early services on students and educational outcomes.
- Minnesota Board of Teaching provides leadership for improvements in teacher education programs to assure that the state has well-qualified, professional teachers. The Board will

work with MDE to expand data collection regarding teacher certification, licensure and information about teacher preparation institutions.

MDE has a history of successful collaboration with the Office of Enterprise Technology and the Office of Higher Education. The Board of Teaching and Early Childhood Divisions are housed within MDE and collaborate daily on a variety of work tasks. MDE has been a member of the P-20 Partnership since 2005. This grant will provide an opportunity to expand Minnesota's collaborative network to include the Department of Employment and Economic Development.

### **Minnesota Statutory Authority**

This grant proposal is prepared with support from the highest levels within the State. Legal authority for data collection within MDE is authorized in Minnesota state law. Minnesota Statutes (M.S.) 125B.07 Subd. 6 DEPARTMENT DUTIES outlines the requirement to maintain a data acquisition calendar, authorization to develop and authorize computerized data systems, certify software vendors and maintain a list of essential data elements about pupils, licensed and non-licensed staff and educational programs.

In 2008, the Minnesota Legislature passed a law authorizing inter-agency data sharing between MDE and OHE. The two agencies may share student-level data elements for purposes of conducting research to answer questions identified in the vision for the Minnesota Education Longitudinal System. Minnesota Statutes Section 13.31 subd.11.

### **Next Steps**

Minnesota's clear vision for improved education includes systemic reform efforts, interagency partnerships, and executive sponsorship from the Governor and his cabinet. This work is authorized through state statutes. A solid technical foundation supporting Minnesota's education data was built with a combination of state and federal funding including the 2006 LDS award.

Even with this strong support, immense resources are still required to upgrade the legacy COBOL systems designed in the 1980s. Many of our daily operations continue to rely on these arcane computer programs. We do not yet have the full set of interoperable data structures needed to support flexible analysis. Without funds from this grant proposal, we estimate that it will be another six to ten years before we are fully able to modernize our data systems.

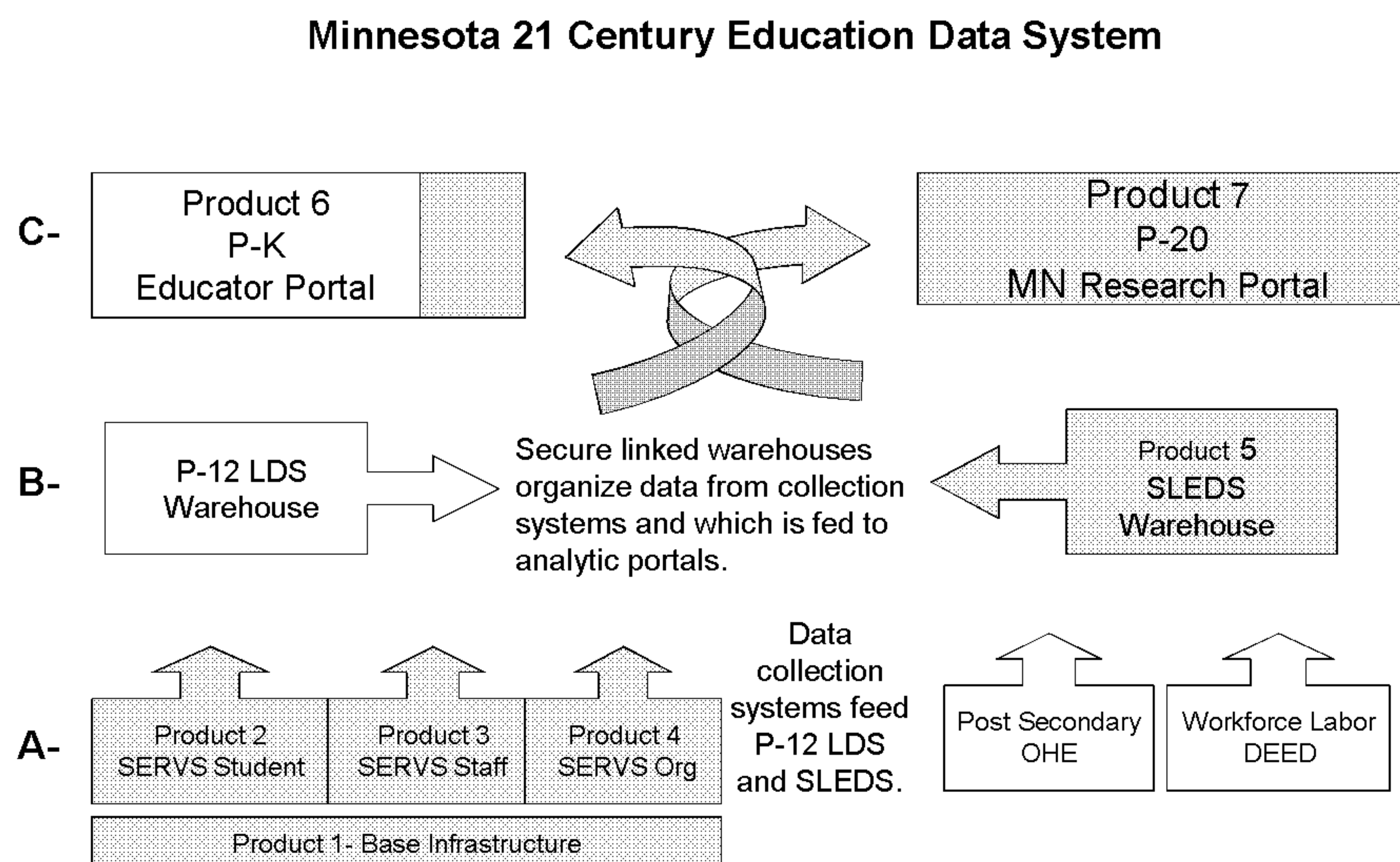
The aggressive timeline of Minnesota's education agenda requires the coordination of longitudinal data across multiple programs. Without the System Improvements to the underlying data infrastructure included in the grant proposal, data to comply with federal requirements and meet Minnesota's Education Performance Vision cannot be collected and coordination of that information will not be possible.

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

Proposed upgrades to Minnesota's data systems are based on the three System Improvements Goals described in Section (a), each System Improvement Goal is implemented through one project outcome as listed below:

- *System Improvement Goal A—Outcome A:* Minnesota Department of Education (MDE) Enterprise Data Collection System
- *System Improvement Goal B—Outcome B:* P-20 Warehouse to be housed at Office of Enterprise Technology (OET)
- *System Improvement Goal C—Outcome C:* Analytic Portals housed at MDE and OET

Seven specific products will be delivered to meet the three outcomes. Each product includes a series of features and benchmarks. Minnesota will develop the products shown in grey in Figure 1, which complement and interact with existing products shown in white to create a fully integrated, statewide education data system.



Data analysis portals draw data from linked warehouses to create a variety of longitudinal views and analysis options using data as recommended by the P-20 SLDS Governing Board and the P-12 MDE Data Management Steering Committee.

**Figure 1**

Each product will include 1) requirements clarification focus group meetings of both internal and external subject matter experts, 2) functional definitions of the product and features, 3) design and coding, 4) integration testing, 5) quality assurance testing, 6) deployment and decommission of legacy systems or products, 7) user documentation and 8) training materials for data managers and data administrators. Features and benchmarks unique to each product line are outlined below as associated with the project outcomes.

### **Outcome A: MDE Enterprise Data Collection Systems**

This outcome focuses on needed upgrades to foundational data collection systems at MDE, some of which are already in progress but must be accelerated to meet the timelines set forth in the America COMPETES Act. Detailed plans are outlined in four product lines: 1) Base Infrastructure 2) SERV S Student, 3) SERV S Staff and 4) SERV S Organization. These products will transition our data out of the current silos managed by individual program areas into an

