



**Project Number: P344**

**Business Intelligence Tool**  
**Data Warehouse Implementation**

**Project Charter**

**Version 1.2**

**1/12/2011**

**Table of Contents**

I) P344 Business Intelligence Tool Data Warehouse Implementation ..... 3  
II) Project Summary ..... 3  
III) Project Scope ..... 5  
IV) Project Objectives..... 6  
V) Roles and Responsibilities..... 7  
VI) High Level Deliverables ..... 10  
VII) Project Announcement Communication Plan ..... 11  
VIII) Assumptions ..... 11  
IX) Constraints ..... 11  
X) Parking Lot ..... 11

**I) P344 Business Intelligence Tool Data Warehouse Implementation**

**II) Project Summary**

The Department of Public Instructions Data Warehouse & Reporting team is associated with many initiatives, all geared to support educational research and analysis to improve educational outcomes. Each project has the opportunity to

- Support agency efforts for [Every Child a Graduate](#)
- Move towards meeting State Fiscal Stabilization Fund (SFSF) requirements and Data Quality Campaign ([DQC recommendations](#)) for a Statewide Longitudinal Data System (SLDS)
- Facilitate data- informed decision-making for school and district improvement
- Assist educators looking to raise individual student achievement and close achievement gaps
- Enable research that will inform and improve student learning
- Enhance the quality of our data system

The value of longitudinal education data is widely recognized, and the federal government, in particular, encourages the analysis of student-level information over time. The U.S. Department of Education Institute for Education Sciences (IES) sponsors the SLDS grant program to fund tasks related to collecting education data, building an education longitudinal data warehouse, and utilizing the data. The Wisconsin DPI has applied for and received three SLDS grants to date.

Efforts within DPI’s first SLDS grant focused on building the Wisconsin education longitudinal data warehouse. The second grant, currently in progress, focuses on collecting additional data to integrate into the data warehouse, data security, and increasing utilization of the data. The third grant will focus on expanding the data warehouse to include both early childhood and postsecondary data and reports.

**Current key components of Wisconsin's data system:**

- Data collections beyond test scores including attendance, discipline, and course taking patterns and completion
- A comprehensive data warehouse storing student and school data from a variety of sources
- Data linked by a common student identifier to create a rich picture of student performance over multiple years at multiple levels
- A security application that ensures only authorized personnel view confidential data
- **Customized, secured reporting tools that provide access to specific key datasets allowing authorized users to analyze student data**
- Public reporting
- Documentation, training, presentations, and communications
- Protocols for establishing a research agenda and methods for sharing data for research purposes

The Data Warehouse & Reporting team has worked to provide public and secure tools to access data in the data warehouse to facilitate data-driven decision-making for school and district improvement, and to assist educators looking to raise individual student achievement and close

achievement gaps. The applications developed, implemented, and maintained by the Data Warehouse & Reporting team provide specific, customized solutions for our school district customers as well as DPI users. However, the team recognizes the need for additional tools, specifically a Business Intelligence / Reporting Tool, which will heighten data usage by enabling access to the comprehensive set of data in the data warehouse.

Driven by the lack of ability for DPI, districts, and schools to access the comprehensive set of data in the data warehouse, the Business Intelligence Tool Data Warehouse Implementation project recently gained momentum. The value of data warehousing and reporting has become increasingly important for all businesses in the last decade. The ability to turn data into information for sound decision-making should be considered a top priority given the state of education today. As a result of this project, DPI will be able to create reports using the data to

- Better understand educational outcomes for Wisconsin students
- Inform decisions that can help ensure every child graduates from high school prepared for both college and career pathways

The DPI's BI Reporting Tool initiative is currently comprised of two projects. These projects are directly linked to two outcomes included in our second SLDS grant:

1. Evaluate, Select, and Purchase a BI Reporting Tool and Deploy Supporting Architecture
2. Implement BI Reporting Tool Data Warehouse Solution

The first project is currently in progress. Tool evaluation and selection is complete and the procurement process is underway. The chosen solution will provide:

- an education data model already structured in a way to enable smart, common, and education-specific reporting on education data
- role based dashboards & visualization,
- public & secured reporting through the same technology to a wide variety of users with a wide variety of data needs,
- pre-packaged business layer and reports,
- simple ad hoc reporting functionality (choose a district, choose a demographic),
- advanced ad hoc capabilities for a limited number of power users at the district and state level to create customizable reports,
- documentation, including professional development resources such as pre-made workbooks to guide use and understanding of dashboards and reports
- accelerated development time,
- and other key functionalities to benefit all stakeholders.

Adding a reporting tool to the existing set of tools (MDAT, SAFE, SDPR, WINSS) for users will also enable the Wisconsin Department of Public Instruction to move towards meeting American Recovery and Reinvestment Act (ARRA) SFSF requirements as defined by the America COMPETES Act while supporting agency efforts for Every Child a Graduate. As a sub-project of the second LDS grant, DPI will also be completing work defined in that grant's work plan.

Documentation specific to the BI Tool project can be found on the network in this location: H:\LONGTERM\LDS\BI Tool. Additional information about the projects of the Data Warehouse and Reporting Team can be found on the [LDS Homepage](#).

### III) Project Scope

- Project 1: BI Tool Selection and Architecture Deployment
  - Select, procure, and deploy the necessary infrastructure and tools for a BI Tool to be utilized by both DPI and associated stakeholders.
  - Products Selected
    - Edvantage Education Data Model
      - The Edvantage Education Data Model will provide a pre-identified data warehouse structure built with recommended strategies by the data warehouse experts. The data will be structured in such a way to enable smart, common, and education specific reporting on education data.
    - Microsoft SQL Server Integration Services (SSIS)
      - The SSIS toolset will provide a tool to create the necessary code to load data into the data warehouse. The data will then be available to create reports off of for analysis and reporting.
    - Microsoft SQL Server Reporting Services (SSRS)
      - The SSRS toolset will provide multiple tools to create reports off of the data in the data warehouse. These reports will then be available through the dashboard.
    - Edvantage Dashboarding Solution
      - The Edvantage Dashboard Solution will provide a common place for a user to access reports.
  - For more information on the Edvantage solution, please visit <http://www.k12intelligence.com/EdvantageIndex.html>.
- Project 2: BI Tool Data Warehouse Implementation
  - The scope of this project encompasses the necessary steps to implement the Business Intelligence Reporting Tool in the data warehouse environment to be utilized by both DPI and associated stakeholders.
  - The overall effort will include tasks from each phase of the data warehouse lifecycle, including creating the data model, loading the data, creating reports off of the data, and publishing the reports through the dashboard. In addition, the effort will include the necessary security components required to implement the solution.
  - To determine final development scope, a series of initial analysis and requirements gathering meetings will take place. A revised scope will then be completed and attached to the charter. The final development specifications will be captured in the Design Specification Document.
  - *Important Note:* Scope will be limited to what is included in the VersiFit solution and a few other items prioritized, specifically those related to federal reporting requirements.
  - Environments
    - Development
    - Production
    - Training Sandbox
  - Data
    - Only data currently included in the Longitudinal Data System (LDS) data warehouse, also known as the Operational Data Store (ODS), will be loaded into the data warehouse for the initial implementation.
    - Some data elements may be identified during the GAP analysis as additional data elements needed for the data warehouse solution. These items will be reviewed

to determine if we load them from a separate source, load them to the ODS and then to the warehouse, or if we add them to a future load list.

- Reporting Scope
  - Out of Box Reports (including report configuration)
  - GOALS Student Growth Percentile (SGP) Reports
  - P20 National Student Clearinghouse (NSC) Reports
- User Dashboard Groups & Content Scope
  - Multiple user types have been identified as potential user groups of the BI Tool.
  - Initial implementation scope has been defined to include
    - District Administrators
    - Principals
    - Directors of Instruction / District Assessment Coordinators
- Professional development including accompanying resources (documentation, videos, training guides) and application-embedded materials (workbooks)
- Out of Scope
  - Additional, customized, new reports and dashboards not specifically mentioned above.
  - The migration of WINSS Reporting to the new toolset
  - Public Reporting, including Grad Rate
  - Redacted Datasets (*Note:* Even though public reporting and redacted datasets are out of scope for the 8/1/2011 implementation date, we will begin conversations around these subjects to enable to move forward quickly with a later implementation phase.)
  - QA Reports
  - Data Collection Status Reports
  - Migrating current data load scripts to the new ETL tool
  - Portal
  - Coursework Completion Datasets
  - Specific Research (*Note:* Although this project will build the data sets to enable research, specific requests will not be completed within the scope of this project. In addition, policy and procedure related to research is out of scope of this project as well.)

#### IV) Project Objectives

DPI's global, high-level objective is to provide a cost-effective, integrated educational analysis and reporting system to support

- Teachers and schools administrators making informed decisions to improve student achievement
- Parents and community members learning more about their schools
- Accurate and timely data reporting to meet Federal, State, and local requirements
- Diagnostic and policy-relevant research
- Data-informed decision-making at the state, district, school, classroom, and student level

The specific objectives for this project are

- to have the data warehouse, reports, dashboards, security, and processes and procedures ready and available by August 1, 2011 for all districts and schools.
- to implement the project in alignment with the identified scope.

## V) Project Tasks

- Implement the Edvantage Enterprise Data Model
- Extract, Transform, and Load data from the ODS into the Data Warehouse based on defined business rules and load specifications
- Implement and Utilize Microsoft SQL Server Integration Services (SSIS) for the Data Warehouse data loads
- Implement Microsoft SQL Server Reporting Services (SSRS), including the Visual Studio toolset for Universe & Report Development
- Implement and Configure Edvantage Report Models
- Implement and Configure Edvantage Reports
- Define and Create P20 National Student Clearinghouse (NSC) and GOALS Student Growth Percentiles Reporting Solutions
- Define and Create documentation to support the reports
- Implement Edvantage Dashboard
- Implement Microsoft Web Portal (Folders & Schedules)
- Define & Implement Security Roles
- Define & Implement Privacy Practices
- Define & Implement Processes and Procedures
- Define & Implement a Training and Rollout Strategy
- Maintain an open and transparent communication structure
- Provide a forum for collaboration, feedback, and information gathering
- Leverage the existing VersiFit user community.
- Determine Operational Support Plan

## VI) Roles and Responsibilities

*For more information, please see the document title BI Tool Project-Resources, Roles, & Responsibilities in the network folder.*

1. **Agency Executive Sponsor:** Kurt Kiefer
  - Provide project vision.
  - Ensure the project remains aligned with business needs.
  - Guarantee funding throughout the life cycle of the project.
  - Work to resolve issues that rise to this level.
  - Escalate issues, as necessary, to the LDS Steering Committee and/or the Data Management Steering Committee and/or Cabinet.
  - Report project progress to the DPI Cabinet members and Data Management Steering Committee members.
2. **Project Manager:** Melissa Straw
  - Project Management
  - Business Analysis
  - Issue Tracking & Resolution
  - Facilitate project working sessions.
  - Assist in monitoring project scope and working to ensure scope creep does not prevent project success.
  - Coordinate activities of the project team.
  - Create project deliverables.

- Ensure that the project meets objectives and produces quality deliverables.
  - Monitor and report on project progress to core project team, key stakeholders, subject matter experts, project steering committee, and the project sponsor group.
  - Act as project advocate.
3. **Product & Consulting Firm:** VersiFit
- Chuck Breithaupt, VFT Project Lead
  - Brian Pritzl, VFT Technical Lead
  - Mike Dudley, VFT ETL Lead (Madison)
  - Bill Myers, VFT Content Development Lead
  - Steve Westerhouse, VFT ETL Developer
  - Josh Pinsonneault, VFT Data Analyst/Developer
4. **LDS Executive Steering Committee:** To provide executive guidance and oversight in the grant management and project development of the Longitudinal Data System (LDS). Also, to guide the continued development of the WINSS website which serves as a portal for key DPI online school improvement resources. This groups looks at linking all of the systems together (LDS, WINSS, SIMS, MDAT, SGP).
- **Members:** Kurt Kiefer, Jennifer Thayer, Tiffany Boyd, Phil Olsen, Rod Packard, Laura Pinsonneault, Paul Sandrock, Melissa Straw, Jean Whitcomb
  - **Frequency:** Monthly
  - **Role:**
    - Meet on a routine basis to review project status and provide input on direction and priorities.
    - Ensure the project remains aligned with the business needs of the Department of Public Instruction.
    - Act as project advocates.
    - Work to resolve project issues that need to be raised to this level. Provide those directly involved in the project with guidance on project issues.
    - Review and approve high-level design and development efforts.
5. **BI Tool Data Warehouse Implementation Taskforce:** Main project group. Meets frequently to discuss all aspects of the project to ensure everything is on track for the data warehouse implementation.
- **Members:** Kurt Kiefer, Phil Olsen, Rod Packard, Laura Pinsonneault, Melissa Straw, Advisory Workgroup Leads (TBD)
  - **Frequency:** Weekly, 1 hour on Mondays
  - **Role:**
    - Provide input to the goals and objectives
    - Identify assumptions, risks, and constraints.
    - Decisions, issues, discussion items
    - Lead, participate in and sign off on analysis, requirements definition, and final validation.
    - Lead and participate in determining technical solution.
    - Lead and participate in issue resolution.
    - Lead and participate in documentation efforts.
    - Lead and participate in testing.



- Verify all requirements for the reporting solution, data integration and security solution have been met.
  - Lead, participate in, and provide support for production implementation.
  - **Advisory Workgroup Leads Role:**
    - Identify and follow-up on key decision items related to specific advisory group topic.
    - Identify and follow-up on issues related to a specific advisory group topic.
    - Identify and follow-up on feedback items needing further discussion within a specific advisory group.
    - Schedule and lead advisory group discussions.
    - Document key decision items, feedback items, and advisory group discussions in the appropriate project document.
    - Create specific documentation related to the advisory group topic.
    - Communicate with Project Manager on a regular basis.
6. **DPI BI Tool Data Warehouse Advisory Workgroups:** Key groups identified as necessary conversation topics related to the project. People identified for each group include subject matter experts for each topic. These individuals and groups will help inform key decisions and discussion topics.
- **Members:** TBD
  - **Frequency:** Ad hoc, determined by Advisory Group Leads
  - **Advisory Workgroup Topics:**
    - Data Analysis Workgroup
      - Specific topics include Dashboards & Reporting and Training/Rollout. This group may also be used to advise on other topics as necessary such as security roles and the processes and procedures associated with access.
      - This group will act as the bridge between the project team and the data analysis workgroups external advisory members.
    - Security, Access, Administration
    - Privacy & Policy
    - Data Warehouse
    - Architecture
    - Support
    - Communication
7. **WI DPI BI Tool Data Warehouse Implementation Advisory Groups**
- **Members:** The Advisory group will be comprised of members from each of the following organizations: CESA SIS, SSEDAC, Large WI IT Group, and pilot districts.
  - **Role:** The group focus will be centered around feedback and collaboration and will be essential to include in the following discussions:
    - providing feedback on our processes and procedures,
    - helping coordinate district access and user set up,
    - defining and revising reports and dashboards,
    - creating training documentation,
    - providing support, communicating efforts, and piloting the tool.

**VII) High Level Project Deliverables**

1. Project Charter
2. Meeting Minutes
3. Project Plan and/or Work Breakdown Structure
  - a. Tasks
  - b. Timeline
  - c. Budget
  - d. Resources
  - e. Time & Effort
4. Decision Log
5. Issue Log
6. Training Plan
7. Internal Communication Plan
  - a. The Project Charter will be distributed to the Steering Committee, Taskforce, and the Project Implementation Teams.
  - b. A Kickoff Meeting will be held.
  - c. Project updates will be communicated within the monthly Dashboard Reports for DOA.
  - d. Project updates will be communicated within the monthly Project Status Report Summary which is distributed to the Steering Committee and the Taskforce.
  - e. Minutes from all meetings will be documented and placed in a shared folder.
  - f. For detailed information, please see the document titled BI Tool Project-Communication Plan.xlsx on the network.
8. External Communication Plan
  - f. For detailed information, please see the document titled BI Tool Project-Communication Plan.xlsx on the network.
9. Business Design: Requirements Specification Document
  - a. Detailed Business Requirements to drive design and development.
  - b. Business Logic to drive design and development.
  - c. Report Mockups
10. Technical Design: Design Specification Document(s)
  - a. Any/all documents needed to for the development phase of the project.
  - b. Business Process Specifications
  - c. Data Model
  - d. Database and/or Datamart Specifications
  - e. ETL Specifications
  - f. Load Process & Load Scheduling
  - g. Reports
  - h. Security
  - i. Documentation/Presentations
11. Quality Assurance / Testing Plan
12. Implementation and Rollout Plan
13. Operations Plan – to include Change Management and maintenance task list, resources, and effort
14. Post Implementation Review Meeting – discuss lessons learned, what went well and processes we can improve.
15. Post Implementation Review Report

**VIII) Project Announcement Communication Plan**

- Initial email to DPI communicating vision and announcing BI Tool project at the appropriate time
- Cabinet conversations
- Assistant Directors meeting
- DPI Brown Bag(s)
- For detailed information, please see the document titled BI Tool Project-Communication Plan.xlsx on the network.

**IX) Assumptions**

- Decisions should be made at the most detailed group possible (implementation team). If needed, escalation of a discussion item or decision item should be escalated in the following order: Project Team-LDS Steering Committee-Data Management Steering Committee-Cabinet.
- If at all possible, follow existing examples for final design and implementation instead of creating from scratch.
- Funding from the LDS II grant will be used for initial procurement.
- Project will be a collaborative effort between VersiFit, DPI IT Teams, DPI Content Areas, school districts, and various other education specific groups in Wisconsin.

**X) Constraints**

- VersiFit Contract Approval
- Infrastructure Purchase and Deployment
- ASM Project
- Resources
- State-wide, all district Implementation Timeline of August 2011
- Required reporting for P20 National Student Clearinghouse (NSC) and GOALS Student Growth Percentiles (SGP) based on the 2011 reporting requirements within the America Competes Act and America Recovery & Reinvestment Act (ARRA) funding due by September 30, 2011.

**XI) Parking Lot**

- Operational Planning & Capacity
- Sustainability
- Operational Data Store (ODS, current Longitudinal Data System (LDS) Data Warehouse) Phase Out