Illinois State Board of Education

Illinois Longitudinal Data System
Data Advisory Committee

March 10, 2010

ILDS Data Advisory Committee

Agenda

Welcome and Introductions

Committee Administration and Status

- **Review of Previous Meeting Minutes**
- **Review of Action Items**
- **ILDS Project Status**

Data Governance

Data Architecture RFSP and Requirements

Data Warehouse Requirements

Linking the Data

Wrap Up and Adjournment

Committee Administration and Status

- **Meeting Minutes**
  - **2/10/20120 Meeting Minutes**

- **Action Items**
  - **Data Governance**

Committee Administration and Status

- **Project**
  - February status call with U.S. Dept of Education held
  - Preparing Annual report for U.S. Department of Education
- **Data Advisory Committee**
  - February, 2010 Meeting held
  - Several new members
  - P-20 Council Liaison
  - Two Focus Groups Forming
    - Teachers (IEA, IFT)
    - Principals and Administrators (IPA) – Met March 4 for initial meeting
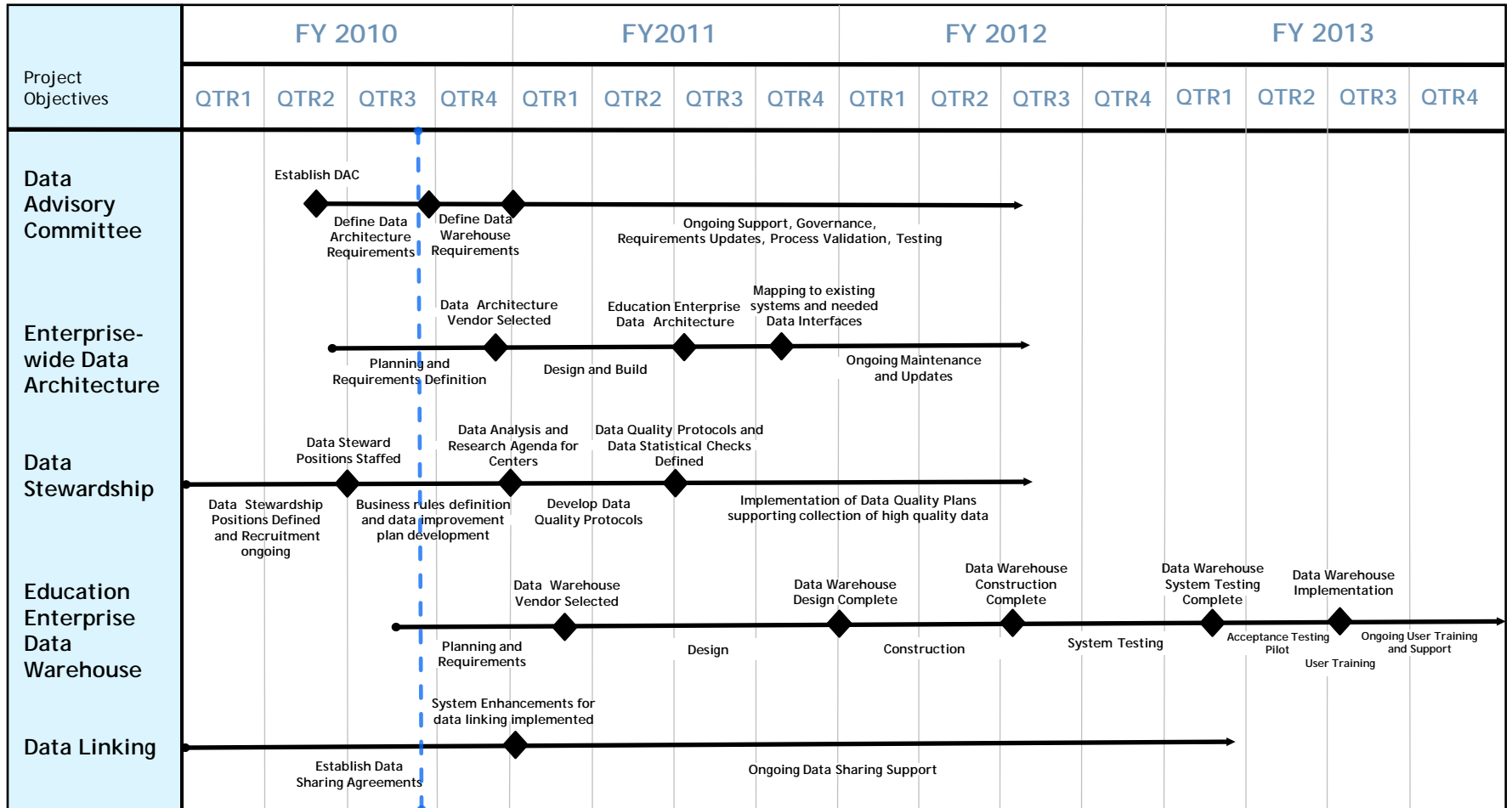- **Enterprise-wide Data Architecture**
  - RFSP in ISBE review, procurement cycle formally underway
  - Requirements identification a key input
  - Establishing additional focus groups for requirements gathering

Committee Administration and Status

- **Data Stewardship**
  - One position filled, efforts continue to fill positions
  - Analysis underway
- **Education Enterprise Data Warehouse**
  - No activity planned during reporting period
- **Linking of ISBE data with Postsecondary and Employment Data, and use this data for Research and Analysis**
  - Agreement in place
  - High School Feedback Report Data Sharing activities commencing
- **Overall**
  - On schedule
  - Slightly behind spend plan – will be adjusting spend plan for federal reporting

ILDS Project Timeline

Project Objectives	FY 2010				FY2011				FY 2012				FY 2013			
	QTR1	QTR2	QTR3	QTR4	QTR1	QTR2	QTR3	QTR4	QTR1	QTR2	QTR3	QTR4	QTR1	QTR2	QTR3	QTR4

Data Advisory Committee
- Establish DAC
- Define Data Architecture Requirements
- Define Data Warehouse Requirements
- Ongoing Support, Governance, Requirements Updates, Process Validation, Testing

Enterprise-wide Data Architecture
- Data Architecture Vendor Selected
- Education Enterprise Data Architecture
- Mapping to existing systems and needed Data Interfaces
- Planning and Requirements Definition
- Design and Build
- Ongoing Maintenance and Updates

Data Stewardship
- Data Steward Positions Staffed
- Data Analysis and Research Agenda for Centers
- Data Quality Protocols and Data Statistical Checks Defined
- Data Stewardship Positions Defined and Recruitment ongoing
- Business rules definition and data improvement plan development
- Develop Data Quality Protocols
- Implementation of Data Quality Plans supporting collection of high quality data

Education Enterprise Data Warehouse
- Data Warehouse Vendor Selected
- Data Warehouse Design Complete
- Data Warehouse Construction Complete
- Data Warehouse System Testing Complete
- Data Warehouse Implementation
- Planning and Requirements
- Design
- Construction
- System Testing
- Acceptance Testing Pilot
- User Training
- Ongoing User Training and Support

Data Linking
- System Enhancements for data linking implemented
- Establish Data Sharing Agreements
- Ongoing Data Sharing Support

Data Governance

- **We Need:**

  - **<u>Vision statement</u> - An image of the desired future**

  - **<u>Mission statement</u> - A specific task with which a person or a group is charged; a pre-established and often self-imposed objective or purpose. Mission statements frequently make the companion vision statement operative**

  - **<u>Goals</u> – Specifics**

  Mission and vision statements form the foundation of communication concerning the data governance initiatives.

Data Governance

Data Advisory Committee Data Governance Vision (proposed)

- **To help establish the technical, management and communications systems necessary for ISBE and its education partners to manage, link, and analyze P-20 education, workforce, and employment data, thus helping every Illinois student reach their potential.**

Data Governance

Data Advisory Committee Data Governance Mission Statement (proposed)

- **Develop a common understanding of data ownership, data quality, data management, data confidentiality and access and appropriate usage of data.**

- **Advise ISBE and its education partners on data use, data management and communications with the education stakeholder community.**

- **Provide committed institutional support for advising on data coordination across education partner organizations.**

- **Provide a continuous focus on and support the continuous improvement of data quality so that data are accurate, reliable, secure, timely, reported equitably and useful to improving programs and practices.**

- **Prevent and resolve differences among education partners seeking to access education, workforce and employment data.**

- **Identify and assist in the implementation of joint data activities.**

- **Reduce the data collection burden**

Data Governance

Goals (proposed)

- **Meet on a regular basis to help define project success criteria and review ILDS project status against these criteria.**

- **Help determine requirements for the ILDS project that support the definition of an Enterprise-wide Data Architecture and the Education Enterprise Data Warehouse.**

- **Identify process changes that support submission and integration of data, including establishing data sharing agreements amongst education partners.**

- **Advise and assist with implementation and change management in support of the ILDS Project.**

- **Help determine a communication process for all education partners and stakeholders that explains data access, security, and appropriate use of education data to improve Illinois education.**

- **Implement strategy to reduce the burden of data collection**

Data Architecture RFSP and Requirements

Data Architecture Requirements

Enterprise-wide Data Architecture will result in:

1. **The construction of an Enterprise-wide Data Model and Data Dictionary, including Metadata**
2. **Logical model of LDS Data Warehouse**
3. **Display tool for public access to the data model**
4. **A Gap Analysis that identifies differences between the National Education Data Model and the ISBE data collection systems**
5. **Identification of linking data to college and career planning portals, facilitate the submission of transcripts**
6. **Establish a system to match students to teachers**
7. **Establish a system to evaluate teacher and administrator preparation programs**

Data Architecture Requirements

Enterprise-wide Data Architecture will result in (cont):

7. Streamlined EDEN and Federal Reporting

8. Mapping of subset of ISBE reports to LDS repository

9. Data Architecture that meets confidentiality requirements of FERPA and Illinois Student Records Act (ISSRA) and ensures the security of education data

Data Architecture Requirements

- Additional initiatives to support (per P-20):

  - Providing student level transcript information from middle and high schools

  - Establishing a statewide course classification system

  - Linking integration of data with postsecondary and employment data, other agencies and organizations

  - Establish a State data audit system

  - Planning for Learning and Performance Management System data structures

Data Architecture Requirements

Areas of interest and focus:

- **Linking data for college and career portals –**
  - SIF interchange
  - ISAC alignment

- **Postsecondary data**
  - Data Sharing Agreements in place

- **Workforce data, workforce linkage**
  - Through postsecondary links

- **Information in the classroom**
  - Focus Groups
  - LPMS, Future initiatives

- **Input received from ISAC, IASB, LRU, ELC**

Data Architecture RFSP

Procurement process underway

Data Architecture Deliverables

- **Requirements**
- **System Design**
- **Detailed Design**
- **Display Tool**
- **Implementation**
- **Mapping between SIS Applications and the LDS**
- **Interface Definitions**

- **Will be looking to review deliverables with DAC**

ILDS Data Warehouse and Requirements

Data Warehouse Requirements

P-20 Longitudinal Education Data System Act

- **Data Warehouse (4th project component)**
  - **Public Internet Web interface**
  - **Provide research and reports to legislature**

- **Start defining requirements**

Data Warehouse Requirements

What we get from the Data Architecture:

- **Identifies the education enterprise information to be contained in the Warehouse**

- **Identifies and prioritizes subject areas to be included in the Data Warehouse**

- **Defines the level of summarization to support data driven decision making**

- **Facilitates the management of the scope of each subject area which will be implemented into the Warehouse on an iterative basis**

- **Develops a scalable architecture to serve as the Warehouse's technical and application foundation**

Data Warehouse Requirements

What we'll need to do for the Warehouse:

- **Identify and select the hardware/software/middleware components to implement it**
- **Select tools or approach for the extracting, cleansing, aggregating, transforming and validating the data to ensure accuracy and consistency**
- **Establish a refresh program that is consistent with business needs, timing and cycles**
- **Provide user-friendly, powerful tools at the desktop to access the data in the Warehouse**
- **Educate the stakeholder community about the realm of possibilities that are available to them through the Data Warehouse**
- **Establish a Data Warehouse Help Desk and train users to effectively utilize the desktop tools**
- **Establish the processes for maintaining, enhancing, and ensuring the ongoing success and applicability of the Warehouse**

Data Warehouse Requirements

User Portal:

- **Web accessible**
- **Intuitive**
- **Support Metadata**
- **Drill down, Graphics, Dashboards**
- **Analysis tools - Static, Ad Hoc, Advanced Analysis**
- **Online Analytical Processing (OLAP)**
- **Alerts and Notifications**
- **Data Upload/Download**
- **Subscribe to Reports**
  - **Content tailoring/personalization by role, user**
- **Parameter driven reporting**
- **Output format – report, PDF, Excel, CSV, HTML, XML, etc.**

Data Warehouse Requirements

- **MS Office Integration**
- **Application Integration – flash, "live content", mobile device delivery**
- **Report Writing**
- **Security**
- **Data element masking, row level restriction**
- **RDBMS – multiple platform support, federated queries**
- **Development**
  - **Development wizards**
  - **Tools**
  - **SDK**
- **Batch Reporting**

Data Warehouse Requirements

Technical

- **Scalable, Performance**
- **Maintenance, Troubleshooting**
- **Version Control/Configuration Management**
- **Administration/Operations**
  - **Backup and Recovery**
  - **Disaster Recovery**
  - **RDBMS – multiple platform support**
- **Metadata management**
- **Data Modeling**
- **Development**
  - **Development wizards**
  - **Tools**
  - **SDK**
- **Batch Reporting, bursting**

Data Warehouse Requirements

Content

- **Reports**
  - **Mapped as part of Data Architecture**
  - **Users**

- **Information**

Data Linking

- **Statewide ID**
  - **Placed on ISEG**
  - **Placed on Transcripts**

- **ISBE with Postsecondary**

- **Workforce and Employment**

Wrap Up and Adjournment

- **Review takeaways**
  - **Data Governance**
  - **Data Architecture Requirements**
  - **Data Warehouse Requirements**

- **Next meeting date – April 14, 2010**

- **Communications**
  - **Contact Information**
    - **Committee Email: ILDSDAC@isbe.net**
    - **Committee Web Site**