



Working with a
Central State IT Agency
to Develop an SLDS
Tips from the States

Brief 8
March 2015

best practices brief



Statewide
Longitudinal
Data Systems
Grant Program



SLDS Best Practices Brief

Working with a Central State IT Agency to Develop an SLDS

As the scale and complexity of information technology (IT) projects and infrastructure that support state operations grow, many states are consolidating public-sector technology operations into a central state IT agency. This consolidation is often undertaken to reduce costs and streamline services for the state as a whole rather than maintaining separate IT departments within multiple state agencies.

Brief 8
March 2015

Working with a central state IT agency presents several opportunities as well as challenges for agencies involved in building statewide longitudinal data systems (SLDSs). In this publication, SLDS states working with central IT agencies offer tips for approaching statewide IT consolidation and for collaborating with a central IT agency on SLDS work. They also share lessons learned about the opportunities and risks posed by developing an SLDS in a consolidated IT environment.

This product of the Institute of Education Sciences (IES) SLDS Grant Program was developed with the help of knowledgeable staff from state education agencies. The views expressed do not necessarily represent those of the IES SLDS Grant Program. We thank the following people for their valuable contributions:

Approaching IT Consolidation

Each state's reasons for consolidating IT operations under a central IT agency and the processes for consolidation will be different. If your state is implementing a consolidated IT environment, the following steps can help ease the transition for your agency.

Thomas Howell
Michigan

Steve Snow
North Dakota

Jeff Sellers
*SLDS Grant Program,
State Support Team*

Robin Taylor
*SLDS Grant Program,
State Support Team*

- *Seek out the state's reasons for consolidating IT operations.* All state agencies affected by consolidation need to understand the state's reasons for moving IT operations into a central IT agency. Understanding the purpose of IT consolidation and the role of the central IT agency will enable all agencies to make more informed decisions about the development of technology systems such as the SLDS.
- *Obtain a cost-benefit analysis of the impact of IT consolidation on your agency.* Costs and benefits should not be calculated solely in financial terms; in approaching IT consolidation, the state needs to fully consider how it might affect each agency's productivity in areas such as access to tools and quality of technical support.
- *Understand the scope of IT consolidation.* IT consolidation may incorporate all of the state's IT services, or it may allow individual agencies to maintain specific IT functions in-house, such as data services, network operations, software development, and help desk support. Agency-specific functions including implementation, maintenance, and support of agency-specific software may also be outside the scope of consolidation and controlled by the agency, either independently or through third-party vendors.
- *Make sure you are provided with updated policies and procedures for new and existing IT projects.* Moving IT operations out of individual agencies and into a central IT agency will most likely alter existing processes for initiating and maintaining IT projects. Clarify and establish a service level agreement with

For more information on the IES SLDS Grant Program, additional Best Practices Briefs, or for support with system development or use, please visit <http://nces.ed.gov/programs/SLDS>.

the central IT agency detailing how current IT operations and future projects will be managed.

- *Ask how the results of consolidation will be measured and evaluated.* Cost savings are often a driving force behind IT consolidation, but the metrics for determining whether the central IT agency is meeting the objectives of consolidation as well as providing adequate support for agency IT functions cannot be solely financial. To ensure appropriate oversight and accountability, consolidation should also be evaluated on measures related to the quality of IT support, client agency productivity, and the effectiveness of IT products and services in supporting individual agency goals. Service level agreements should be implemented to support the ongoing relationship and accountability.

Tips for Collaborating with a Central IT Agency on SLDS Work

- ✓ Bring the central IT agency on board early.
- ✓ Establish strong governance to clarify ownership, roles, and responsibilities for the SLDS and its data.
- ✓ Ensure that the SLDS is meeting the needs of key audiences.
- ✓ Build teams with skills across multiple systems.
- ✓ Be aware of additional security concerns.
- ✓ Do not try to do everything at once.

Tips for Collaborating with a Central IT Agency on SLDS Work

According to states, the following practices can facilitate effective collaboration among SLDS partners and the central IT agency.

Bring the central IT agency on board early.

Depending on the extent of a state's IT consolidation, the central IT agency may be a required partner in SLDS work. Involve IT leaders early on in discussions of the purpose, vision, and outcomes of the SLDS, and keep them engaged throughout the system's development. A common understanding of and commitment to the goals of the SLDS will be essential as all partner agencies work with the central IT agency through lengthy requirements-gathering processes and potentially challenging discussions of how standard IT solutions can be adapted to meet SLDS needs.

Even if the state plans to work with a third-party vendor to build the SLDS, the central IT agency remains a crucial partner in planning for the system's migration to state-operated servers and its sustainable maintenance by state personnel. Making sure the central IT team buys in to the vision for the SLDS and have a chance to inform how the system is built will help ease the transition between the SLDS building process and its ongoing operation.

Establish strong governance to clarify ownership, roles, and responsibilities for the SLDS and its data.

Consolidated IT operations require consolidated inter-agency decisionmaking about those operations. Establish clear project governance and data governance structures and processes—including specific procedures addressing federal and state privacy laws—that explicitly define the roles and responsibilities of the central IT agency, data-contributing agencies, and other SLDS partners within the SLDS.

The project governance structure for the SLDS should provide a means of planning for and managing the following:

- *Deliverables:* Which SLDS partners are responsible for each aspect of SLDS planning, building, maintenance, and use?

- *Contingency planning:* If an agency is not meeting its responsibilities, who steps in? How will unexpected challenges be handled?
- *Procurement processes:* What are the procedures for establishing contracts related to the SLDS? Standardized practices are especially important when multiple state agencies are involved in procuring products and services for the SLDS.
- *Financial responsibility:* How is the SLDS being funded (e.g., through federal grants, agency budgets, state appropriations)? Will those funding sources need to change in the future to sustain the system? Clear delineations of responsibility are particularly important when the SLDS relies on shared servers and staff, and when the system is used by multiple agencies.
- *Capacity of SLDS partners to develop and support the system:* What infrastructure, personnel, and other assets are needed, and what agency will provide them? When will these assets be available?
- *Data storage and recovery plans:* How and where are the SLDS data backed-up and stored? What are the data recovery processes in the event of a problem with the system?

Depending on the system model being used for the SLDS, working with a central IT agency may mean that cross-agency longitudinal data will be matched or stored outside the agency that owns the data. Data governance questions such as how data will be collected, matched, and stored; when matching will take place;

how the data will be used and in what format; and how data use will be authorized need to be answered to the satisfaction and agreement of all partner agencies. If the central IT agency is responsible for linking data records from the contributing partners, it may be well placed to coordinate and implement data sharing agreements and enforce terms for the collection, sharing, and use of SLDS data.

Ensure that the SLDS is meeting the needs of key audiences.

All of the agencies involved in SLDS work have clients, constituencies, and stakeholder audiences whom they serve. Because these audiences will

P-20W+ Focus

Keep in mind that each state agency contributing data to the SLDS may have a unique relationship with the central IT agency in addition to unique relationships with the other partners. Clearly establishing roles and responsibilities will help not only to identify the most efficient data governance and operational processes based on these relationships, but also to delineate each partner agency's contributions to minimize overlapping or conflicting efforts.

Michigan: Involving the Central IT Agency in a Vendor-Built SLDS

Michigan's central IT agency had been in place for several years before SLDS work began. Although SLDS leaders were happy with the IT support personnel working with the education department, concerns about bureaucracy and the slow pace of developing new projects through the central IT agency led the SLDS team to contract with a third-party vendor to build the new data system. Working outside the central IT agency allowed the vendor to utilize agile development processes to build the SLDS before moving it inside the state's IT environment for ongoing operation and maintenance.



Michigan is now transitioning operation of its SLDS and related processes from the vendor and business-side staff to the IT team. Close communications and coordination among the teams involved has been essential to the transitions. For example, as the vendor built the SLDS over a four-year period and technology evolved, the central IT team needed to manage server and operating system upgrades while ensuring that the systems and tools continued to function properly. The expertise of the IT staff directly involved in Michigan's education data projects puts them in a strong position to take over data management activities once the system's transition from the vendor is complete.

not always overlap, develop use cases, stakeholder engagement and outreach plans, and metrics for objectives related to each audience to make sure the SLDS is serving all user groups as intended. States with consolidated IT environments have an additional dimension of stakeholder engagement and service in that the primary client audience for the central IT agency is the state agencies it serves. For the central IT agency, stakeholder engagement plans and metrics will focus on translating the diverse requirements of each agency into technical solutions and helping to ensure that needs of the client agencies' stakeholders are being met.

P-20W+ Focus

As the number of SLDS partner agencies increases, the scope and diversity of SLDS audiences also grows. SLDS partners may serve and be accountable to constituency groups that are different from the SLDS's primary audiences. Additional care is needed to ensure that relevant constituencies are properly identified and that SLDS work is designed to meet their needs.

Work with the central IT agency to build teams with skills across multiple systems.

Central IT agency personnel might work with a variety of technology projects and be familiar with a variety of systems. This multi-project focus can be both a benefit and a challenge. Coordinate with IT leaders to ensure that staff members are able to work effectively on more than one system or set of tasks. This planning will be especially important when changes are needed to SLDS infrastructure or processes, and when there is turnover in IT support staff.

SLDS leaders also need to be able to provide subject matter expertise when the central IT agency requires more information about SLDS tasks and processes. The SLDS data governance system can be an effective venue for formalizing collaboration between IT staff and education program experts and for ensuring that subject matter expertise guides technical requirements for the SLDS.

Be aware of additional security concerns.

When a central IT agency is involved in managing the SLDS, access to and responsibility for the information within the system is no longer limited to the agencies directly collecting and using the data. It is important that security policies, practices, and training are designed to

North Dakota: Obtaining Buy-In for Centralization and Establishing Responsibilities

North Dakota centralized its IT operations before work on the SLDS began. At first, the SLDS partner agencies were reluctant to share their data with a central IT agency and preferred to perform data matching themselves as needed for reports requiring cross-agency data. State law authorized the central IT agency to broker data sharing agreements with each state agency.



In addition to a general data sharing agreement that all SLDS partners signed, the central IT agency develops agreements for specific data sharing purposes detailing the data to be shared, how the data can be used, and the duration of the agreement. As the agency responsible for collecting and linking data from multiple state sources, the central IT agency is able to match data and provide other agencies with the de-identified, aggregated cross-agency data needed for state and federal reporting. This streamlined process has proven successful in generating data such as those required for State Fiscal Stabilization Fund reports more efficiently.

North Dakota also grappled with establishing ownership of the SLDS and responsibility for its funding and maintenance when multiple agencies are both contributing and using data. Ultimately the state legislature decided to fund ongoing maintenance of the SLDS using general funds rather than through the budgets of individual SLDS partner agencies. Any modifications to the data system—including the development of new datasets or reports—must be approved by an SLDS committee consisting of representatives from each of the partner agencies. If the committee approves a modification, the requesting agency is responsible for securing funding for the new work through grants or state appropriations.

ensure proper handling of sensitive information by all people with the potential to access it.

Additionally, the Family Educational Rights and Privacy Act (FERPA) has specific provisions relating to disclosure of education data to non-education entities such as a central IT agency. Data-sharing agreements, which are required under FERPA, need to appropriately address these provisions. Technical controls such as role-based access, security logs, and audits will also help ensure compliance with FERPA's requirements for tracking where education records go and who has access to them.

Do not try to do everything at once.

Whether or not the SLDS is built in cooperation with a central IT agency, the process of planning,

developing, and implementing the system will not happen overnight. Taking a phased approach to integrating data and rolling out features and tools for

P-20W+ Focus

When planning a phased approach to SLDS development, take into account the timelines for assets or services provided by each P-20W+ partner agency to come online. This includes resources from the central IT agency. If the central IT agency is not ready to take on a system or operation when it is needed, other partner agencies may be tempted to work around the central IT agency, leading to a breakdown in project management and governance.

Key Documents for Collaborating with a Central IT Agency

When initiating SLDS work with a central IT agency, the following types of documents provide vital records of requirements and expectations related to the data system. These are by no means the only documents states should create to ensure the SLDS and its operations are well documented; however, they are important pieces of overall system documentation that clarify the roles and responsibilities of the central IT agency and other SLDS partners in ensuring successful management of the data system.

Service Level Agreement

A service level agreement establishes the expected level of services that a provider—such as the central IT agency—will deliver to its clients. The agreement defines the scope and quality of services expected, lays out timelines for delivery, defines performance measurements, and establishes provider and client responsibilities for handling problems. Because the scope and requirements of an SLDS may be greater than those of other IT projects managed by the central IT agency, it is important to establish early on the level of service the central IT agency is expected to provide and the consequences for not meeting those expectations. The agreement is also a mechanism for enforcing accountability for service failures such as when the system goes down or fails to load.

Disaster Recovery Plan

A disaster recovery plan details steps to be taken and responsibilities for getting the SLDS back up and running in event of severe damage to the system. Disasters could be physical, such as a fire at a server warehouse, or technological, such as a system hack or a computer virus. The primary goals of a disaster recovery plan are to establish steps for restoring the SLDS while minimizing service disruptions and data loss. These steps will be shaped by the recovery time objectives, which describe the maximum amount of time that users can be without the SLDS for normal business operations, and recovery point objectives, which describe timeframes for potential data loss due to the disaster. The disaster recovery plan may be part of a broader business continuity plan (see below).

Business Continuity Plan

A business continuity plan outlines how agencies will operate following a disruption in normal working conditions, such as a natural disaster or computer system failure. While a disaster recovery plan for the SLDS deals with recovering the system's data and functionality, the business continuity plan covers how agencies will carry out their normal tasks and activities until the SLDS is restored.

users will allow time for successful system design, addressing problems along the way, and navigating agency-specific project management processes. It will also allow SLDS partners to build the capacity needed to implement new processes and products successfully and on-time.

Establish realistic expectations for the system for SLDS partners and stakeholders. Early wins in the form of new data tools or reports answering long-held questions about education policy can help demonstrate the value of the SLDS even before it is fully implemented.

Additional Opportunities and Risks when Working with a Central IT Agency

In addition to the tips above, states recommend being aware of and planning for the following opportunities and risks when working with a central IT agency on an SLDS.

Opportunities

- *Leveraging shared assets across the state.* Cost savings and operational efficiencies from statewide resources can be significant advantages for SLDS work, particularly for P-20W+ systems.
- *Efficient identity management.* Having a single agency such as the central IT agency managing data matching across multiple sources can streamline the matching process and simplify the process of assigning unique identifiers to SLDS records.
- *Increased data security.* The expertise and resources of a central IT agency can result in more secure data systems and improved response to potential security issues.
- *Support for SLDS sustainability.* The central IT agency can provide an additional level of continuity, resources, and support for sustaining the SLDS during leadership transitions in individual agencies or in the state government.

Risks

- *Misalignment of priorities and objectives.* Emphasis on different performance metrics can lead the IT team and the SLDS partners to approach SLDS work with different or even competing priorities. Along with agency leaders, the state's executive and legislative leadership can provide oversight to ensure that SLDS objectives are being met.
- *A one-size-fits-all approach to technology and services.* There may be a tendency to apply common solutions or approaches to the needs of different agencies and departments being served by the central IT agency. Learn as much as possible about the central IT environment to determine where the standardized infrastructure, support, or management practices might be a good fit for the SLDS work envisioned and where customized solutions are possible. If a standardized solution is not adapted effectively, SLDS partner agencies may be tempted to go it alone on the system design, losing the chance to take advantage of shared state resources and potentially undermining the goals of IT consolidation by introducing duplicative systems.
- *Unclear communications and poorly managed expectations.* All SLDS partners need to make an effort to understand the business practices, needs, political pressures, and other factors affecting how SLDS work will be prioritized and managed by the other agencies. It is also important for the partners collectively to set realistic expectations for the SLDS's capabilities and development timeline.
- *Off-site IT support.* If IT personnel work in a different location than the rest of the SLDS team, clear and frequent communications become even more important to keeping the work on track.

Additional Resources

Agency Centralized IT Reference Model for State of Minnesota Agencies' Planning and Management
http://mn.gov/mnit/images/031412_Agency_Central_IT_Reference_Model.pdf

Michigan Center for Educational Performance and Information
<http://www.michigan.gov/cepi/>

North Dakota Statewide Longitudinal Data System
<https://slds.ndcloud.gov/SitePages/Default.aspx>

SLDS Best Practices Conference Presentation (2012): Consolidating IT Structure Across Agencies
<https://slds.grads360.org/#communities/pdc/documents/6209>

SLDS Best Practices Conference Presentation (2011): P-20W Centralized Data Systems
<https://slds.grads360.org/#communities/pdc/documents/6272>