

**Legislative Report
for
2017-2018
Section 22m**

**Michigan Data Hub
Q1 Grant Progress**

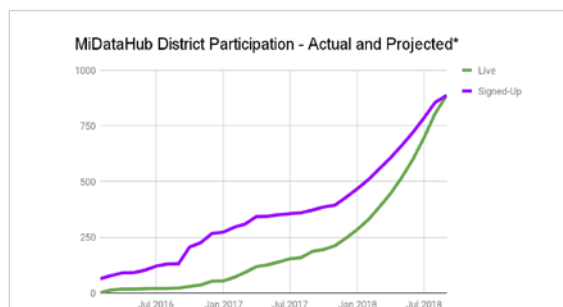
Table of Contents

Executive Summary.....	3
Promoting 100% District Adoption	3
Actionable Data.....	4
Supporting Other Legislative Initiatives	4
Productivity Features	4
Actionable Data Efforts	4
Foreword.....	5
Introduction	6
Findings	7
Legislative Goal 1	7
Legislative Goal 2	8
Legislative Goal 3	9
Legislative Goal 4	10
Legislative Goal 5	12
Legislative Goal 6	13
Legislative Goal 7	15
Legislative Goal 8	16
Legislative Report Conclusions	18
Appendices.....	19
MiDataHub Adoption Map.....	20
MiDataHub Integration Inventory	22
MiDataHub Productivity Features and Initiatives.....	24
MiDataHub Actionable Data Features and Initiatives	29
District Support Specialists and MiDataHub Staff	32
Linkages to Other Initiatives and Funding	33
MiDataHub Advisories	35
Historical Data Integration Efforts	37
Glossary and Web References	38
Glossary.....	38
Web References.....	41

Executive Summary – Q1 Section 22m

The MiDataHub solves the problem of time-consuming, redundant, and inaccurate data entry. School district personnel can now enter all of the student information “within just a few minutes” rather than taking “days, weeks, or sometimes months.”
Michael and Susan Dell Foundation

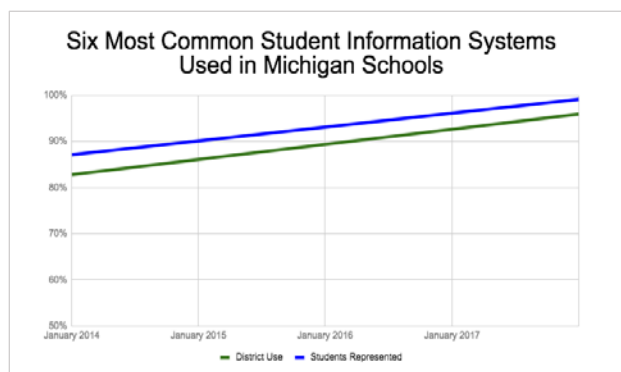
VISIT www.midatahub.org FOR A SHORT ANIMATED VISION OF MIDATAHUB



PROMOTING 100% DISTRICT ADOPTION

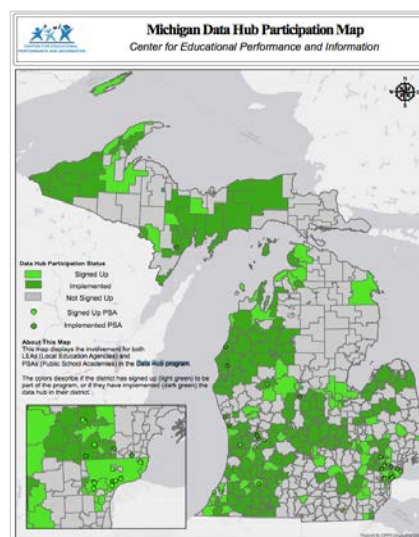
District connections to the MiDataHub infrastructure have increased at an average of 16% per month for the past 20 months. If this current rate continues, all 887 Michigan local, public, and charter schools will be connected by September 2018.

As of January 1, 2018, 401 or 44% (map right) of all public local and charter districts, representing 872,000 or 59% of Michigan’s K12 students are participating. Of these, 214 districts are connected and sending data daily with 189 in the process of connecting.



INTEGRATING SCHOOL DATA SYSTEMS

The Michigan DataHub is currently providing 569 active connections between school data systems. The annual value of these integrations is **\$1,408,057**. With full statewide adoption, the total



savings based on integrations alone will exceed **\$25 million**.

PROMOTING A MORE COMMON SET OF APPLICATIONS

The six most common student information systems (SIS) are now connected to the DataHub. Prior to the creation of MiDataHub, these same six systems represented 82% of districts and 87% of students. **Today, Michigan School District use has grown to 96% and 99% respectively.**

Actionable Data

Due to the flow of educational data through the system, opportunities have arisen to leverage the MiDataHub to enhance statewide legislative initiatives, to support teaching and learning directly through the use of actionable data, and to provide for additional productivity. Three examples of the many efforts in each of these areas are highlighted below. More exhaustive lists are included later in the narrative. These value-added features are opportunities existing solely because of the standardized flow of educational data through the MiDataHub. The value of these efforts is demonstrated by the potential percentage of students impacted for each item listed.

SUPPORTING OTHER LEGISLATIVE INITIATIVES

1. 3rd Grade Reading Law, section 1280f: Revised School Code: The creation of a web-application (MiRead) to support creating and sharing Individualized Reading Improvement Plans (IRIP). (55%)
2. Algebra Nation, section 99t: Automation of student rosters, single sign-on accounts, and providing usage data back to students, schools, and the department of education. (100%)
3. MiSTEM Network, section 99r (2017): The MiSTEM Network Committee Report requires participating schools to connect to the MiDataHub to ensure streamlined and reliable feedback and reporting data to inform MiSTEM Network efforts. (100%)

PRODUCTIVITY FEATURES

1. Current Integrations: Top six SIS's (99%). Career Cruising (75%), Meal Magic (37%), NWEA* (62%), DIBELS Next* (27%), AimsWeb* (9%), among others.
2. In development: Illuminate (DnA 60%, ISE 21%, ISI 2%), Renaissance Star Reading* (14%).
3. Unique Identification Code (UIC) Automation: In collaboration with CEPI, streamlining the UIC process, a manual process that currently requires the uploading of data, followed by a hand selection of IDs by school staff. (100%)
4. MiLaunchPad SSO: This single sign-on tool is quickly reducing the number of usernames and passwords that students, educators, and parents need to remember to access key educational data systems. (100%)

*Approved 3rd grade reading assessment.

ACTIONABLE DATA EFFORTS

1. Developing enhancements to the Intervention Catalog to support; MiREAD (55%), Title (50%) and At-Risk programs (30%), and the Michigan Department of Education (MDE) Early Warning and Intervention Monitoring Process (EWIMS) (20%). The EWIMS dropout prevention process is made possible by the MiDataHub and its Early Warning System (EWS) dashboard. (www.mi.gov/mde-ewims).
2. Focused efforts to create data connections to early childhood data systems such as ChildPlus, TS Gold, HighScope, and Kindergarten Readiness Assessment (KRA) to ensure the flow of information to support student learning P-20. (100%)
3. MiLearn: This new MDE parent portal for access student assessment results now provides unprecedented access and transparency to State assessment results for parents and educators (100%)

Foreword

As is the case with every state in the country, Michigan has powerful data at its fingertips at the state, regional and local levels. The problem with this data is that it lacks the clarity and presence to empower the user with easily accessed “information,” which can be used to bring about action and results. The rise of technology in the information management age brought tools from vendors throughout all corners of the country, each aiming to solve problems in their own unique way. Dozens of data points turned into millions of bits and bytes, each defined as uniquely as the systems that contain them. The work of the Michigan Data Hub does not set out to diminish those efforts, but rather to become an organizing factor which utilizes data standards and information exchange protocols to empower the user to efficiently leverage the ingenuity and creativity of the many systems that support teaching and learning.

Today, dozens and dozens of systems are in play at more than 900 intermediate school districts, local education agencies, and public school academies across the state. The staggering number of disparate systems that must be connected, harnessed and used to bring together an ever-increasing number of data points from which information must be gleaned is mind boggling. The Michigan Legislature had the presence of mind to encourage collaboration, support innovation, and demand better information management practices from the local, intermediate and state levels through MCL 388. 1622m, the Michigan Data Hub Network.

This report lays out the tremendous progress being made on the project, and I hope you will see the potential it has for empowering administrators, principals, teachers, parents and students with more timely and accurate information from which better choices and opportunities can be identified and acted upon. The collaboration this opportunity is harnessing, and the momentum the work is building in support of key legislative initiatives is exciting. Working together to improve the way data is managed on a daily basis, and ensuring that high quality information becomes a way of working from the very moment a student enrolls in a school to the many transitions the student will make on the path to success is critical. We must do a better job of managing information and sharing it at appropriate times and in appropriate ways as efficiently and effectively as possible. Our data management efforts must be highly secure yet easily leveraged. That is no small task, but together, the public education community can make it happen. Changing from a data management culture to an information management culture will take some time and practice at all levels. As with any effort, processes take time to refine and improve, and the culture behind them will evolve in time as well. While we work together to find ways to support our students and become a “Top 10 in 10” statewide education system, I hope you will see the many benefits this collaborative effort brings, as well as its potential for organizing and supporting key work in the months and years to come.



Tom Howell
Director
Center for Educational Performance and Information (CEPI)

Introduction

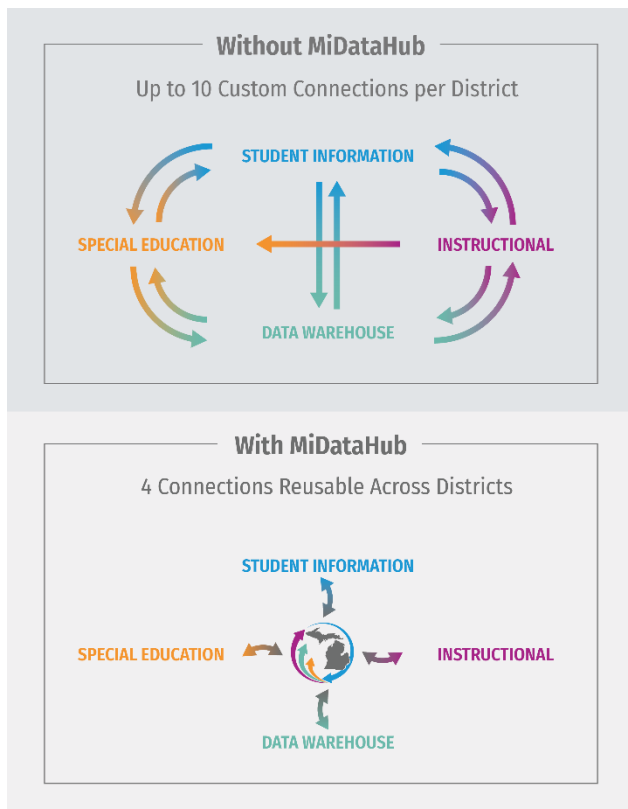
Section 22m legislative language requested that...

“Not later than January 1, 2018, the center shall prepare a summary report of information provided by each entity that received funds under this section that includes measurable outcomes based on the objectives described under this section. The report shall include a summary of compiled data from each entity to provide a means to evaluate the effectiveness of the project. The center shall submit the report to the house and senate appropriations subcommittees on state school aid and to the house and senate fiscal agencies.”

The Executive Summary and Introduction above are designed to provide a standalone two-page overview and to highlight a few of the key areas of first quarter progress and overall impact. The ‘Findings’ to follow and reference appendices offer a more detailed accounting of the progress to-date as related to the eight goals outlined in the 22m legislation. It is important to note that this progress report, in the context of 22m funding, is based on efforts in just the first three months of the grant implementation.

What should become clear in a review of this document is that district adoption is increasing rapidly, that the system will save schools considerable time and money, and that MiDataHub is creating an ecosystem to support equity in school data, and a diverse array of educational efforts. Already

supporting students, parents, teachers, administrators, schools, districts, MDE efforts, and CEPI requirements, the importance of maintaining this effort grows daily. By interconnecting and streamlining access to, use of, and improving the quality of educational data for all stakeholders, MiDataHub is demonstrating a multi-fold return on investment (ROI).



At its core, MiDataHub simply and dramatically reduces the number of integrations (connections to move data between data systems) that are created and managed by Michigan schools. This statewide change is reducing from tens of thousands of redundantly created and managed integrations to less than one hundred centrally managed on behalf of all of Michigan’s local and charter public schools. The example (left), demonstrates this reduction for one district, using only four of an average of nine systems in use by schools. Replicating this process for 900 districts amplifies the value exponentially.

Findings

LEGISLATIVE GOAL 1

CREATING AN INFRASTRUCTURE THAT EFFECTIVELY MANAGES THE MOVEMENT OF DATA BETWEEN DATA SYSTEMS USED BY INTERMEDIATE DISTRICTS, DISTRICTS, AND OTHER EDUCATIONAL ORGANIZATIONS IN MICHIGAN BASED ON COMMON DATA STANDARDS TO IMPROVE STUDENT ACHIEVEMENT.

The Michigan Data Hub team has established an infrastructure of five fully functional data hubs, which have the capacity to effectively manage the movement of educational information statewide. The five hosting locations are Copper Country Intermediate School District (ISD), Kalamazoo Regional Educational Service Agency (RESA), Kent ISD, Oakland Schools and Wexford-Missaukee ISD. All five data hubs are connected via a virtual private network to keep MiDataHub separate and protected from other systems. Further, MiDataHub hosting locations are all linked by 100Gb high-speed connections via the Michigan Statewide Education Network (MiSEN), allowing for the traffic to be securely handled within Michigan rather than the commercial Internet.

The movement of data is managed using the Ed-Fi Alliance data standard. This standard is based on the same data standard that state agencies use to report their data to the federal government. Currently 30 of the 50 states have adopted this standard. Michigan has been a leader and a pioneer in the use of the Ed-Fi standard for interoperability purposes. While the standards-based interchange of data is the “how,” the improvement of student achievement is the “what” that really matters.

One aspect of effectively managing the movement of data is to ensure that the system is always available and functional as needed. The data hub team tracks the number of minutes that the system is operating and compares that to the number of minutes the system could possibly be available to determine an uptime percentage. The metrics established to receive the grant funds indicated a target of 99.x% uptime. Through three months of the section 22m funding, the uptime has averaged 99.1%, meeting this goal.

In addition to the Ed-Fi standard, another standard being used for interoperability is the OneRoster standard. OneRoster is much narrower in terms of usage than the Ed-Fi standard, in that it focuses solely on student roster information. However, roster information is what many educational data systems need. As such, implementation of the OneRoster Application Programming Interface (API) in addition to the Ed-Fi data store allows MiDataHub to be multilingual. When a system needs just roster data, the OneRoster API becomes an option for that. When more robust information is needed, or data needs to flow bi-directionally, the Ed-Fi API is preferred. Work on the OneRoster integration is in final testing and will be offered as an option beginning in January 2018. This allows any application that can use the OneRoster API to automatically be integrated with MiDataHub. This functionality will accelerate the integration of data systems and drive district adoption statewide.

LEGISLATIVE GOAL 2

UTILIZING THE INFRASTRUCTURE TO PUT IN PLACE COMMONLY NEEDED INTEGRATIONS, REDUCING COST AND EFFORT TO DO THAT WORK WHILE INCREASING DATA ACCURACY AND USABILITY.

During the first several years of the project, the major focus was on the integration of student information systems, as they house most of the data that districts track. Now that the SIS integrations are largely functional, efforts are ramping up to achieve additional vendor adoption. As of the start of the grant year, there were 12 data systems integrated, with approximately 500 instances of those integrations in use for districts. By the end of November, those numbers had grown to 15 integrated systems with 569 instances of integrations in use for districts. The goals for the grant year are to have 48 integrated systems (300% increase) with more than 1,000 active integration instances (100% increase).

Several of the integrations already in place or underway are detailed below:

ALGEBRA NATION – This integration is currently in progress and has the potential to reach 100% of the districts in Michigan. Algebra Nation is a legislatively funded product which assists students in improving their Algebra skills. MDE added requirements to the Algebra Nation contract so they would provide a data hub integration as an option to school districts throughout the state. The bi-directional integration includes sending roster data to Algebra Nation and system usage information back to MiDataHub. That will allow the district, MDE and eventually the legislature to access real-time and accurate information for analyzing the product’s effectiveness at improving student achievement and if future funding of the tool would be appropriate. Additionally, MiDataHub will provide authentication of students for Algebra Nation. By having Algebra Nation as a service provider tied to MiDataHub single sign-on, students will be able to navigate seamlessly to Algebra Nation without having to log in a second time. This work will serve as the basis for providing similar authentication, using the **MiLaunchPad**, for additional educational applications going forward.

NORTHWEST EVALUATION ASSOCIATES (NWEA) – Of the 214 districts fully connected to MiDataHub, 110 use NWEA and 55 of those districts have signed up to connect their assessment results. The NWEA assessments for those districts are currently being loaded into our test environment. Upon completion, the data will be available in the MiDataHub dashboards (January 2018) as well as for exchange with other systems that use the data. According to information from NWEA, this integration will impact up to 62% of districts statewide.

MICHIGAN STUDENT DATA SYSTEM (MSDS) REPORTING – One of the most important integrations is with CEPI, which will make the state reporting process easier and more accurate for districts. This integration involves many steps. The first step is to ensure that every piece of information in the Michigan Student Data System (MSDS), Educational Entity Master (EEM), Registry of Educational Personnel (REP) and Financial Information Database (FID) has a way to be exchanged and can be stored in the district database. For the MSDS exchange alone, 163 elements have been mapped. Monthly meetings have been held with SIS vendors to validate the ability of each vendor to provide the data for

each element. To date 62 of the 163 elements (38%) have been validated, with a goal to have all completed by June 30, 2018, which will prepare for live state reporting submissions in the fall of 2018.

UIC INTEGRATIONS - The UIC is an extremely important state assigned identifier for students. The current practice of obtaining a UIC for a student is for a school secretary to log into MSDS, enter some basic information for the student, and then go through a process to get an existing or new UIC. That value is usually then pasted back into the SIS. Another way districts currently obtain UIC codes for students is to create a file containing multiple students needing UICs, upload to the CEPI site, resolve any records that are problematic, download the result file, and import it back into the SIS. Both processes take considerable time and effort, and provide opportunity to get an incorrect UIC. The longer the process takes, the longer the district uses the student's data without a valid UIC. The Michigan Data Hub will expedite this process by providing a web service for the SIS to call to place a UIC lookup request. Once the call is received, MiDataHub connects to the CEPI web services, acquires the UIC and sends it back to the SIS where it is saved immediately with the student record. This improves data accuracy by practically reducing the time without a valid UIC to almost nothing, while saving significant time for school employees, and allowing student data to begin to flow into the many other data systems used to support their learning.

EEM INTEGRATIONS - Maintained by CEPI, the EEM contains the official district and building information for educational entities across the state. Many of the rules for state reporting rely on EEM information. CEPI and the Michigan Data Hub team have completed initial development and are currently testing an EEM integration. This integration of official school leadership and infrastructure data into the MiDataHub infrastructure will facilitate error checking, state reporting, and a variety of other tasks. Ensuring the consistency of this data will dramatically increase usability for school personnel and the State.

These are only a few examples of the growing list of commonly needed and requested integrations from Michigan School Districts in place. During the first three months, the number of integrations has increased by 25%, including completion of SIS integrations to ensure that 96% of districts serving 99% of students can connect. A more thorough list of integrations is included in Appendix B.

LEGISLATIVE GOAL 3

PROMOTING THE USE OF A MORE COMMON SET OF APPLICATIONS BY PROMOTING SYSTEMS THAT INTEGRATE WITH THE MICHIGAN DATA HUB NETWORK.

From the time this project began, Michigan has experienced a significant decrease in the number of SIS in use by schools. Based on an initial survey of 709 districts in 2013, the six SISs targeted for integration by the project were eSchoolPlus, Infinite Campus, MISTAR, PowerSchool, Skyward, and Synergy. The survey found that 82.8% of districts and 87.1% of students were on the top six identified SIS at that time. Current records, for the 710 districts for which we have data, show that 99.1% of the students and 95.9% of the districts represented are now using these top six SIS systems. With a survey response rate

over 70%, it is estimated that these percentages hold true for all of Michigan's local and charter public schools.

Much of this SIS migration has been attributed to districts pursuing student systems that have been identified by and connected to MiDataHub. In fact, we are aware of only one other SIS outside of the identified six that has been purchased by schools during the duration of this project, the Illuminate SIS, which is currently in the process of creating a connection to MiDataHub.

Similar shifts with other school data systems have been observed, with many districts including MiDataHub integrations as a preference or prerequisite in bid requirements. In addition to individual districts requesting that systems be MiDataHub compliant, statewide bids and contracts are also beginning to require integration. A Regional Educational Media Center (REMC) statewide bid for Automated Notification Systems, that will be released in January will include MiDataHub integration in its specifications. MDE has similarly begun to add contract language with vendors such as Algebra Nation and initiatives such as MiSTEM to require MiDataHub connections.

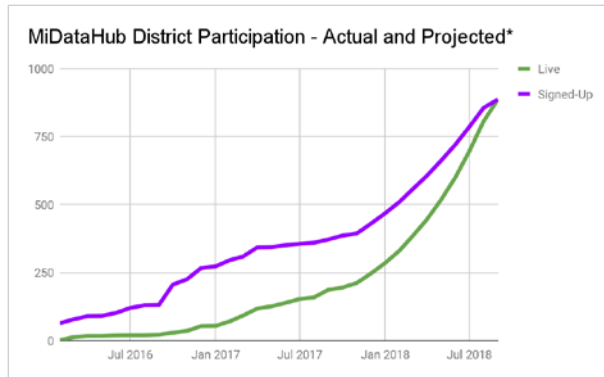
Expanding beyond instructional systems has always been on the roadmap for MiDataHub. Efforts in this area have taken hold over the past three months as well. MiSuite, a school finance, payroll, and human resources system, developed by the MiCASE Consortium, a six ISD partnership, is in the process of connecting to MiDataHub. MiCASE has offered to share this system statewide and a growing network of districts and ISDs is lining up to make this a truly collaboratively owned and developed tool. The most recent expansion of the system is underway in the Flint area with the entire Genesee ISD region adopting the tool. Its MiDataHub connections will pave the way for streamlined implementation of the software and enhance our ability as a state to collaborate based on common data standards.

In short, MiDataHub is already meeting this goal by narrowing the field of educational data systems in use throughout Michigan, while at the same time driving up the collaboration between schools and state agencies, as well as streamlining business and instructional practices for Michigan schools.

LEGISLATIVE GOAL 4

PROMOTING 100% DISTRICT ADOPTION OF THE MICHIGAN DATA HUB NETWORK BY SEPTEMBER 30, 2018.

To date, more than 400 of the roughly 900 districts in Michigan have begun the process of adopting MiDataHub by either signing up for the project or fully connecting (live), at a minimum, its SIS to



MiDataHub. The chart (left) shows the growth in the numbers of live districts and districts signed-up to date and projected through September. As of the drafting of this report, the number of live districts was 214. As MiDataHub is a voluntary use system, continued awareness efforts are significant and critical.

Future growth rates in the chart above are based on the average growth tracked throughout the past 20 months since the first district was

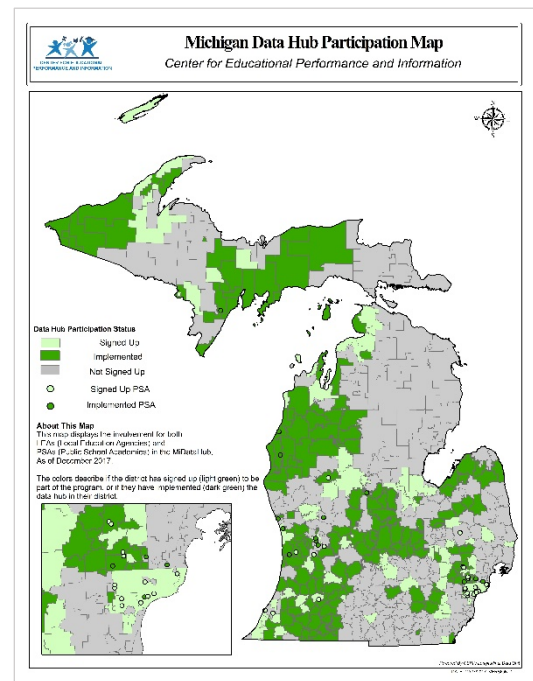
connected. At the current rate, 100% of local and charter schools will be connected by the goal date of September 2018. While full adoption is on target, there are still 4% of districts using an SIS that is not connected and a number of small independent charter schools that have proven challenging to engage. Thus, full 100% adoption by all 900 districts is not anticipated, but always a goal.

To date, 100% of 340 districts that have signed agreements have maintained those agreements. Many of the connected districts are partnering on pilot connections including early literacy assessments AimsWeb, DIBELS, and NWEA, as well as resources such as MiLearn, UIC automation, and state reporting. This level of engagement is encouraging for the long-range adoption and use of the system.

The map (right) shows current registrations and implementations. As is illustrated by the map, partnerships with ISDs are often the critical lynchpin in the connecting process. Targeted efforts are already underway to increase adoption in areas of the state that are clearly underrepresented. Events scheduled in the northeast/central lower peninsula are expected to fill in substantial sections of the map by the end of January 2018. These professional development events are typically the first step in the onboarding process.

In the three months since 22m activities began, the MiDataHub team has completed 20 professional development events, to a total of nearly 600 educators. This exceeds the goal of 12 for the grant year. The number of sessions and level of participation are indicative of the growing interest in MiDataHub and its value to schools and the State.

Onboarding events are generally regional sessions for an ISD or group of ISDs to assist districts from the region in the process of connecting their data systems to MiDataHub. During the initial three months of the grant, the MiDataHub team has completed four



regional onboarding events. Onboarding events are technical assistance PD sessions where MiDataHub staff work directly with ISD and district staff to establish automated connections from their data systems to MiDataHub. With a goal of 10 for the year, and two events already scheduled for January, this effort is well ahead of schedule.

In addition to the MiDataHub statewide staff, the MiDataHub project works with ISDs to establish regional support personnel. These ISD level-staff, Data Hub Support Specialists (DHSSs) offer local knowledge about the systems schools use, data policies and practices, and the ever-important relationships as they provide MiDataHub support. This expands the capacity of the MiDataHub staff, from 5 to 30 experts providing regional and statewide support for local schools. During the months of October and November alone, DHSSs assisted an additional 21 districts in connecting to MiDataHub. A current listing of these specialists is maintained on the www.midatahub.org website, as well in Appendix E at the end of this document.

LEGISLATIVE GOAL 5

ENSURING LOCAL CONTROL OF DATA, DATA SECURITY, AND STUDENT DATA PRIVACY.

Local control, data security, and data privacy start at the cockpit level. The cockpit application is a web-based utility that puts districts firmly in control of their own data and provides an audit log tracking all manual changes. Initially, a district's data integration capability is disabled until its superintendent, or their proxy, electronically signs a data hosting agreement (DHA), which spells out the terms and conditions of using the system. The superintendent/proxy can revoke that signature at any point, effectively disabling any further integration with their district, keeping the local district firmly in control of their data at all times.

The DHA is important in that it provides guidelines and restrictions for those who access MiDataHub on behalf of the districts. The guidelines include maintaining Family Educational Rights Privacy Act (FERPA) protection of data, ensuring encryption at rest and in transit, identifying that the district remains the owner of the data and that the data cannot be disclosed to anyone without consent. To date, there have been no instances of inappropriate disclosure of data nor any FERPA violations. A revised agreement with improved language along with increased liability coverage will further protect districts and their data.

Once the agreement is signed, the district can then create a variety of inbound, outbound, and API integrations. Those integrations provide the capability for the exchange of information, but for a vendor to use that functionality, the district must provide the vendor with the appropriate secure connection information.

All integrations are protected by industry standard encryption. All web-traffic is encrypted with secure socket layer (SSL) encryption. Inbound and outbound integrations will utilize SSL as well as secure file

transfer protocol (SFTP). Finally, the entire data hub network is enclosed in a virtual private network (VPN) which is very tightly controlled to allow only appropriate traffic through.

At the hardware level, all storage area network (SAN) drives are encrypted, so that physical theft of a drive will not allow for retrieval of data. Within the structured query language (SQL) database used by the system, all databases are also encrypted.

The Department of Technology, Management, and Budget (DTMB) utilizes tools to scan State of Michigan infrastructure to ensure that no vulnerabilities exist. A scan of the data hub infrastructure led to a few minor recommendations that have been addressed, but found no vulnerabilities in the network infrastructure. Continued scanning, as well as an audit by an outside testing agency, will continue to give districts confidence that their data is well protected.

The recent addition of the ability to track changes to settings in the MiDataHub Cockpit provides an additional layer of security in the system. With this feature the system administrator will be able to review when connections were initiated, when settings are changed, and who took those actions.

LEGISLATIVE GOAL 6

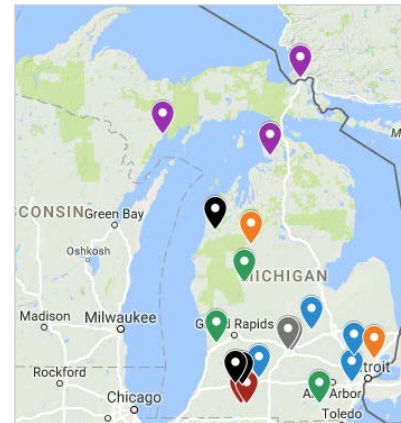
UTILIZING THE INFRASTRUCTURE TO PROMOTE THE ACTIONABLE USE OF DATA THROUGH COMMON REPORTS AND DASHBOARDS THAT ARE CONSISTENT STATEWIDE.

As the data quality and availability improve through the streamlined integration of systems, the capability to use that data in an actionable manner to support teaching and learning dramatically expands. While there have been many initiatives to improve the use of data, and MiDataHub will not be the magic bullet solution to all actionable data needs, it does serve to expedite equitable solutions to many of our actionable data challenges faced at a state, regional and local level.

As a result of this goal, a new role was created on the MiDataHub Statewide Team. Tom Johnson, an educator with 25 years of experience in leading educational technology and data initiatives in Michigan was hired in August 2017 as actionable data manager. He is tasked with identifying statewide needs and then aligning and implementing opportunities to leverage MiDataHub in support of these educational needs.

An Actionable Data Advisory Committee has been assembled (map right) with curriculum and instruction, data, and educational technology leaders from across the state. The table in Appendix G includes the names, district or agency, and role of the advisory members. This group has set and begun work on the following three statewide priorities:

1. The development of an online tool for the creation, management and administration of **Individualized Reading Intervention Plans**.
2. The enhancements to and expansion of the **Intervention Catalog** to become a Student Supports and Enhancements System.
3. The integration of **early childhood data** systems into MiDataHub.



Focus areas one and two above both support the goal of pre-populating the intervention catalog with at least 24 pre-populated interventions. Work is underway with MDE to identify and endorse research-based, evidence-based, and promising practice interventions and to link those lists to the System. Discussions are also underway to develop ‘fast-track’ or pre-approval processes to streamline the district application processes for programs including Title and At-Risk.

The Cockpit application is designed to house common reports that can be created and plugged into the framework to make them available to districts. This allows for a process of rapid prototyping and deployment of reports, to put important reporting capabilities in the hands of districts. A custom export tool allows districts to flexibly query their data, allowing for near instant access to its information. Specific reports that are already in the system include data quality reports, data hub usage statistics, CEPI MSDS reports, and data validation reports. CEPI has expressed an interest in creating reports, such as a chronic absenteeism report, and distributing it via MiDataHub for districts to utilize.

Efforts to integrate the Michigan Student Test of Educational Progress (M-STEP) and World-Class Instructional Design and Assessment (WIDA) data from MDE into MiDataHub are nearing completion. These integrations will not only bring timely, automated access to these data sets for exchange with other systems, but they will also be usable for calculations, dashboards and other actionable purposes.

INDICATOR	METRIC VALUE	TREND	STUDENT GOAL	DIFFERENCE FROM GOAL	DETAILS
Summary					
Metric Rising and approaching Rising					
• Metrics Falling	4		0	4	
• Metrics Caution	0		0	0	
Attendance (Through January 27, 2017)					
Percent of days missed is attendance					
• Daily Attendance Rate	92.1%		95.0%	-2.9%	More -
Behavior (Through December 14, 2016)					
Number of discipline incidents					
• School Code of Conduct	0		3	3	More -
• State Reportable Offenses	1		0	-1	More -
Current Course Grades (Through Second Nine Weeks 2016-2017)					
Grade as of first grading period					
• Current Math Grade	26		70	-44	More -
• Current Language Arts Grade	46		70	-24	More -

MiDataHub has implemented the Ed-Fi dashboards (left), including an early warning system (EWS) and intervention catalog which are freely available to districts. Building on the EWS and intervention catalog, MDE and the Great Lakes Comprehensive Center have teamed up with MiDataHub to create an EWIMS process. EWIMS is a research-based process to use EWS data to identify students at risk of dropping out, assign appropriate interventions, and monitor student progress over time. A manual and training videos have been developed to assist with implementing this

process. Additionally, an AT&T GradNation grant has been applied for that, if awarded, will bring \$250,000 over two years to support training of districts statewide. The goal for this grant year is to have more than 200 districts with these dashboards. As of this report, 168 districts have dashboards in place. A second goal with regards to the dashboards is to pre-populate the intervention catalog with at least 24 research and evidence-based practices so that districts can select from them to address student needs.

NWEA, an assessment system in use by more than 60% of Michigan school Districts, has integrated with MiDataHub and is currently sending assessment results into the system. These results are populating new dashboards, which were developed in Nebraska as part of their Ed-Fi initiative, and are scheduled to be available alongside the existing EWS and Academic Dashboards. Final testing is underway in pilot districts with release of these new statewide dashboards on schedule for January 2018.

MiLearn is an MDE initiative that is operational in 15 districts, and expected to be in more than 100 by the end of the grant cycle. The MiLearn website is hosted by MDE and contains an array of educator and parent-friendly reports on M-STEP and WIDA testing. The connection to MiDataHub allows for parents to access the system and results for their children using the local school district parent portal without the need for additional accounts for parents. Teachers and administrators can access the system similarly and are given access to students in their classroom or building(s) respectively. This new, direct online delivery to parents will soon replace the hundreds of thousands of dollars spent printing and shipping color copies. In addition to the cost savings, the system will also serve to deliver results immediately upon MDE release of assessment results, without the historical delay of weeks or months.

These are but a few of the actionable data efforts that are underway. A more comprehensive list of initiatives is included in Appendix G.

LEGISLATIVE GOAL 7

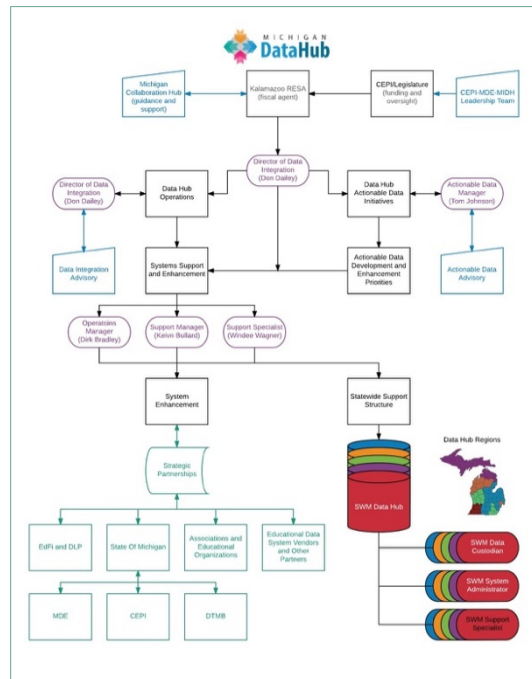
CREATING A GOVERNANCE MODEL TO FACILITATE SUSTAINABLE OPERATIONS OF THE INFRASTRUCTURE IN THE FUTURE, INCLUDING ADMINISTRATION, LEGAL AGREEMENTS, DOCUMENTATION, STAFFING, HOSTING, AND FUNDING.

An extensive governance model (next page) is in place for the Michigan Data Hub, and is currently based on the grant funding strategy to date. The current Section 22m funding is provided through CEPI, which has sub-granted to Kalamazoo RESA as fiscal agent. Kalamazoo RESA employs the MiDataHub staff, including a director, actionable data manager, operations manager, and support manager to carry out the MiDataHub work.

A leadership team comprised of CEPI's director and assistant director; the MDE Office of P-20 Data and Information Management's director; the MDE Director of 21st Century Learning; and, the MiDataHub's director and actionable data manager is in place to ensure that MiDataHub is meeting the legislative and grant requirements.

Primary coordination and direction for the Michigan Data Hub is provided by two advisory committees, which are comprised of ISD representatives from MiDataHub regions. While these committees are advisory, they represent the voice of districts; thus, very little occurs without their approval. It is the advisory committees that identify priorities for the work of the director and actionable data manager.

Much of the work of MiDataHub is distributed to ISDs throughout the state. Five ISDs serve as data hub hosts and receive funding to offset both the use of their infrastructure and staff who serve as data hub system administrators. Staff from a numerous ISDs serve as data hub support specialists (DHSSs), with 25 of these specialists serving from 20 ISDs throughout the state.



Legal agreements have been developed to handle MiDataHub operations. A contract for hosting services is in place between Kalamazoo RESA and the other four ISD data hub hosts. A newly revised DHA between Kalamazoo RESA and all districts joining MiDataHub is also in place. The DHA ensures protection of district data and identifies the terms and conditions that govern district usage.

Identifying long-range governance and sustainability options is ongoing during monthly advisory and collaboration meetings with MiDataHub Advisories, in partnership with CEPI and MDE.

LEGISLATIVE GOAL 8

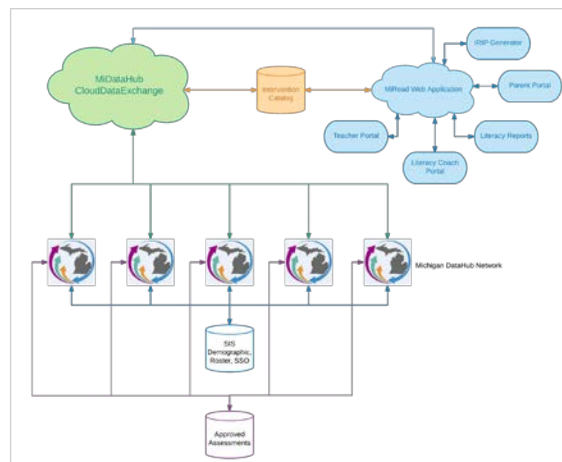
EVALUATING FUTURE DATA INITIATIVES AT ALL LEVELS TO DETERMINE WHETHER THE INITIATIVES CAN BE ENHANCED BY USING THE STANDARDIZED ENVIRONMENT IN THE MICHIGAN DATA HUB NETWORK.

One of the most impactful results of implementing the Michigan Data Hub infrastructure is that it has changed the way Michigan approaches new data initiatives. Not only does MiDataHub provide a standards-based framework that can be leveraged for new initiatives, it also opens up the ability for collaboration between districts, ISDs, and State of Michigan entities, such as CEPI, DTMB and MDE.

The governance structure provides one mechanism for identification of new initiatives. Having representation on both the Data Integration Advisory and Actionable Data Advisory from districts, ISDs, CEPI, and MDE allows for early identification of new data needs. With all parties at the table, data needs

can be discussed and the best resolution identified. Quite often, that solution involves the MiDataHub infrastructure.

A prime example of this is the ability to address legislative priorities like the '3rd grade reading law'. The need to provide students who are not reading at grade level with IRIPs affects all districts throughout the state. Currently, districts and ISDs are working individually or in small groups to put solutions into place, cobbling together tools that meet the basic needs, but are not well integrated. The duplication of effort in addressing this legislation is tremendous. The Actionable Data Advisory has identified the need to address this on a statewide basis. By creating an application that connects to MiDataHub to gather student demographics and assessment data, a common system can be developed that can be freely used by Michigan districts. Further, given that the system would house data statewide, IRIP information can move with a student between districts. Work is underway to develop specifications for the system, identify funding, and to launch a development team to create the system for the 2018-2019 school year.



In addition to evaluating future data initiatives described above, CEPI and MDE are changing processes to evaluate requests received from internal and external stakeholders. Some of these requests are to streamline compliance reporting, some to improve data quality processes, and some are to limit required reporting. In short, they are now evaluating whether the requested information would better serve students in a timelier manner through collaboration with MiDataHub. While data issues can be “fixed” at the time of compliance reporting, the reality is that the compliance report may be correct, but a student may not have received needed services for several months. These requests for improving data quality can now be considered. The focus is now on opportunities to provide improved student supports or district efficiencies.

There are numerous other ways the MiDataHub infrastructure is being leveraged to address new initiatives, including grant opportunities to pursue new capabilities that will benefit districts without costing taxpayer dollars. See Appendix F for more details.

Legislative Report Conclusions

Goal 1 – Creating a Standards-Based Infrastructure

Influencing practices in State departments, ISDs and local districts.

Initially Met, Ongoing

Goal 2 – Reducing Costs and Increasing Data Quality

Vendors and 20% of districts, ROI is approaching \$1,500,000 per year.

Progressing on Schedule

Goal 3 - Promoting More Common Applications

99% of students represented in six SISs.

Initially Met, Ongoing

Goal 4 - Promoting 100% District Adoption

401 districts and 875,000 students; growing at 16% per month.

Progressing on Schedule

Goal 5 - Ensuring Local Control, Data Security, and Student Privacy

Successful DTMB audit, updated agreements, and liabilities addressed.

Initially Met, Ongoing

Goal 6 - Utilizing MiDataHub to Support Actionable Data Efforts

Advisory created with work focused on three key priorities.

Progressing on Schedule

Goal 7 - Creating Governance, Legal, Staffing and Hosting Structures, and Solutions

Legal, structures, staffing, hosting and cloud applications emerging.

Progressing on Schedule

Goal 8 - Enhancing Data Initiatives

IRIP Tool Development, CEPI, MDE, MiSTEM initiatives integrating.

Initially Met, Ongoing

Conclusion

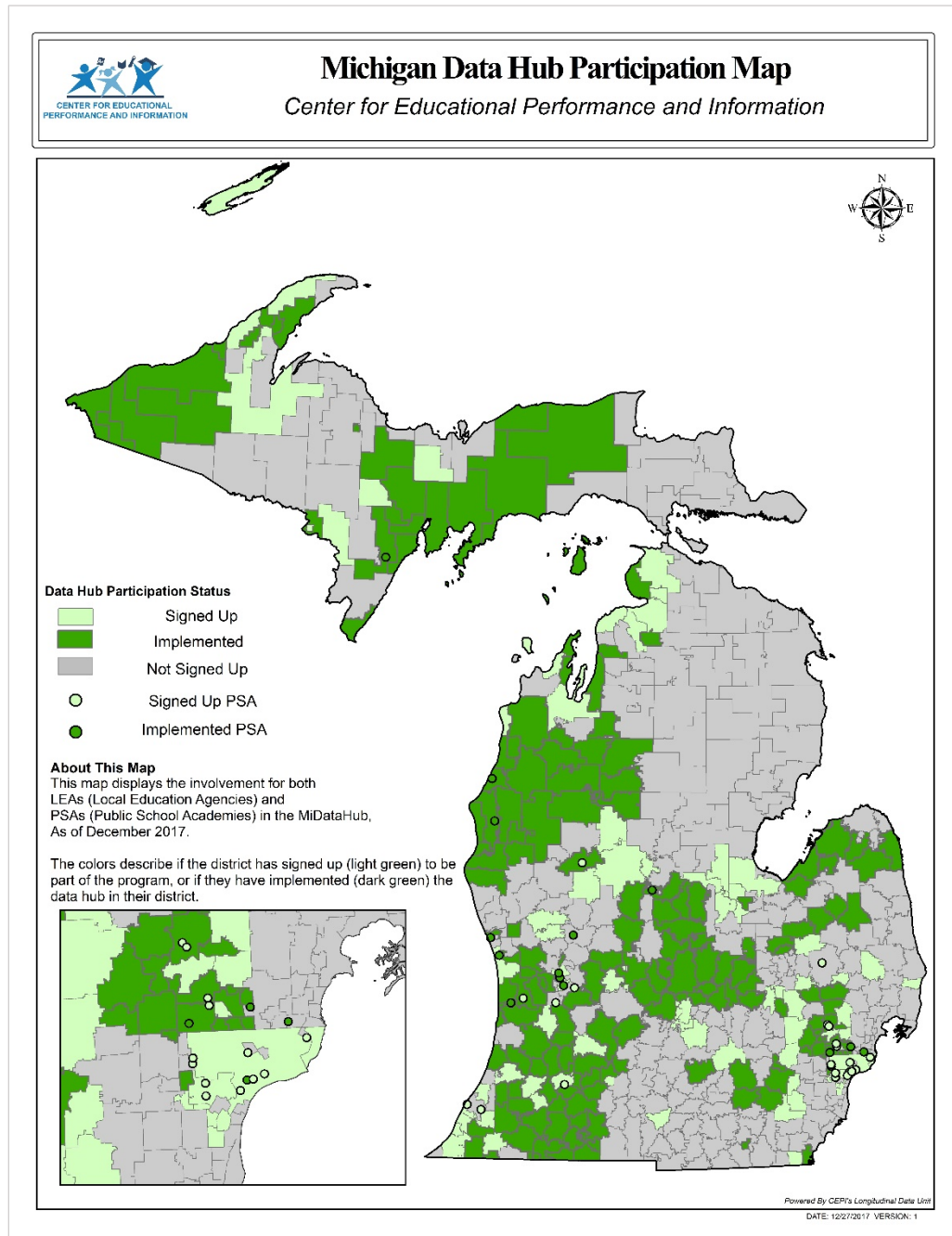
The MiDataHub project is exceeding expectations. Nearing 70% ROI for the year, integrations alone will deliver well in excess of 100% ROI, providing a net savings to the educational community. Productivity and actionable data enhancements will improve data quality and consistency, with value added features.

APPENDICES

Appendix A

MIDATAHUB ADOPTION MAPS – CURRENT AND ONE YEAR AGO

December 2017 – Current

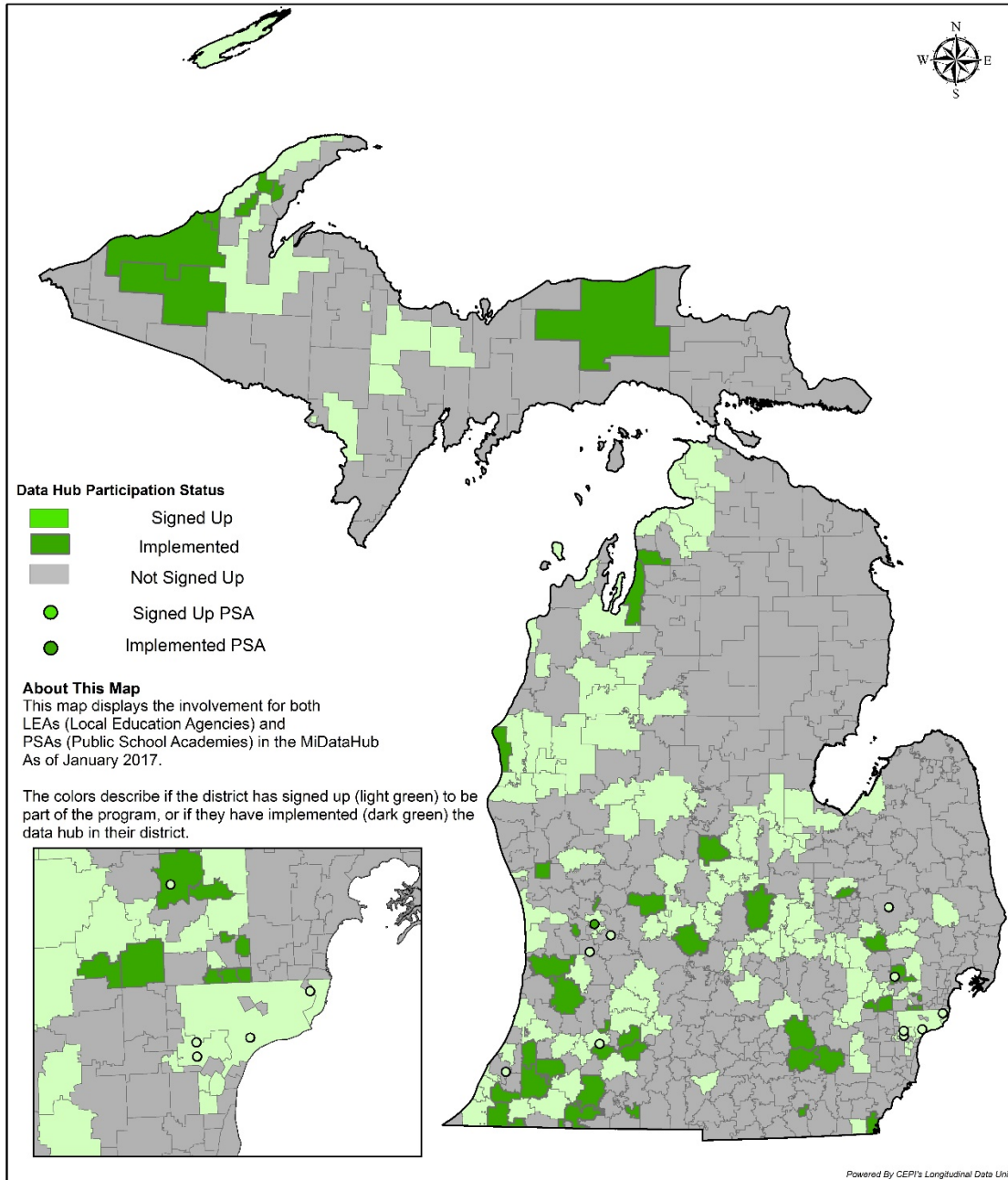


January 2017 – One Year Ago



Michigan Data Hub Participation Map

Center for Educational Performance and Information



Appendix B

MIDATAHUB INTEGRATION INVENTORY

A number of vendors are in development of integration via the Ed-Fi API and/or OneRoster API. While they are not listed here, additional systems in process can be found at <http://22itrig.org/activities/data-integration/connected-systems/>.

MiDataHub Integration Inventory

System	Type	Integration Status	Potential Impact
aimsWebPlus (Pearson)	Assessment	Testing - Roster integration. Planned - sending back assessment data.	7% of districts per vendor provided information
Algebra Nation	Educational Application	Testing - Roster integration, authentication. Planned - sending back usage information.	Legislative funding for 100% of districts
BrightArrow Alert	Notification System	Certified Roster Integration.	2% of districts, but increasing due to availability of the API integration
Career Cruising	Career Planning	Certified Roster and Transcript Integration. Planned - student portfolio and schedule requests transfer.	44% of districts, but growing due to the work occurring statewide with MiBrightFuture
CEPI EEM Integration	School Data	Testing - Ability to sync EEM data to district ODS.	100% of districts
CEPI UIC Integration	Identity	Testing - Ability to acquire UICs from CEPI via API.	100% of districts
DIBELS NEXT	Assessment	Testing - API Roster integration. Planned - sending back of assessment data via API.	25% of districts
Edupoint Synergy	SIS	Testing - Full SIS API integration. Planned - state reporting certification.	6% of districts
Eidex	Dashboard Application	Testing - Full API receipt of student data, attendance, discipline, grades, transcript.	Legislatively funded tool, 50% percent estimated
Infinite Campus	SIS	Production - Full SIS API integration. Planned - state reporting certification.	3% of districts
Kickstand Edify	Learning Management System	Testing - API Roster Integration. Planned - ability to send back assessment data via API.	1% of districts.

MiDataHub Integration Inventory

System	Type	Integration Status	Potential Impact
MDE MiExcel	Dashboard	Testing - Sync of authentication, attendance and discipline data.	5% (100% of identified MiExcel schools)
MDE MiLearn	Dashboard	Production - Authentication, roster, and student-parent relationship data.	100% of districts
MDE M-STEP	Assessment	Testing - API integration of assessment results to data hub ODS for districts.	100% of districts
MDE WIDA	Assessment	Testing - API integration of assessment results to data hub ODS for districts.	100% of districts
MISTAR	SIS	Production - Full SIS API integration. Planned - state reporting certification.	8% of districts
MISUITE	Finance/HR/ Payroll	Testing - API integration of personnel and finance data.	5% of districts, add GISD region in 2018
NWEA MAP	Assessment	Testing - Receiving assessment results. Planned - Roster integration via API.	62% of districts
OneRoster (IMS Global)	Roster	Testing - This API is an alternative to Ed-Fi and opens the door to integration for a wide variety of systems.	100% of districts
PowerSchool	SIS	Production- Full SIS API integration. Planned - state reporting certification.	38% of districts
Schoolzilla	Dashboard Application	Testing - Full API receipt of student data, attendance, discipline, grades, transcript.	Piloting with Battle Creek, Detroit and Redford Union
Skyward	SIS	Production - Full SIS API integration. Planned - state reporting certification.	16% of districts
SunGard/ PowerSchool eSchoolPlus	SIS	Testing - Ed-Fi XML integration. Planned - state reporting certification.	3% of districts
USA Scheduler	Student Master Schedule Application	Certified - Full API roster integration. Planned - sending back schedules for the next school year.	New to Michigan

Appendix C

MIDATAHUB PRODUCTIVITY FEATURES AND INITIATIVES

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Cockpit Application	Provides a secure place for districts to manage all aspects of their integrated data. Districts manage this from their district “landing page”.	100% of districts, primarily superintendent and district technology/data staff
API Integrations	Provide bidirectional transfer of data and full interoperability between systems. Highly secure and scalable. This is the desired integration type for all systems. API integrations also allow vendors to access multiple years of data where that exists.	System vendors, State of Michigan Systems, Michigan School Districts.
Inbound Integrations	Allows for bulk-loading of data in Ed-Fi XML format into the Michigan Data Hub from other data sources. Files are transferred on a scheduled basis through secure protocols such as SFTP.	Useful for vendors, such as NWEA, to mass send assessment data, where API integrations are not provided.
Outbound Integrations	Allows for sending data on a scheduled basis to other systems either in Ed-Fi XML format, or other standard formats such as comma and tab delimited. Files are transferred on a scheduled basis through secure protocols such as SFTP, SSL, and Azure storage.	Useful to districts and system vendors for the purpose of mass populating other systems, and reproduction of legacy integrations where an API connection is not yet provided by a vendor.
Multiple Outbound Destinations	Allows for outbound integrations to flow to multiple destinations. This feature was paid for by MDE for the MiLearn project, but applies to all outbound integration uses.	Any district, vendor or initiative using outbound integrations.
Build Process	Applies metrics criteria to school data to prepare for the use of the Ed-Fi dashboards.	Scheduled by district technology staff, at a frequency needed by district staff using the dashboards.
Electronic Agreement Capabilities	Allows for superintendents to sign agreements online to permit the use of MiDataHub or other optional features such as MDE applications, such as MiExcel and MiLearn. The capability also exists for districts to revoke their approval of any agreement.	Superintendents and any vendors that have a functionality that a district would need to opt into using.

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Proxy Designation	Due to the fact that many superintendents delegate the responsibility of signing agreements, the ability to designate a proxy has been provided.	Superintendents have this option when using the Cockpit.
Single Sign-On (SSO)	The SSO capability scales across all data hub applications, allowing one user login and password to access the Cockpit, dashboards, and any other applications that use the SSO.	All users of data hub applications, including school staff, students, parents and any other educational stakeholders who have accounts
Auto-Generation of Accounts	School staff accounts can be generated when sufficient information is provided from the district SIS, Human Resources or another integrated product. An email is sent to staff with temporary login information when their account is created. This permits access to dashboards and other functionality.	All school district staff
Account federation	School districts have the option of federating their Microsoft or Google logins used in district to MiDataHub. When that is completed, district users can log into data hub applications with their district login rather than a data hub login, further eliminating redundant logins.	Any district with Google or Microsoft Logins that wishes to complete the approximately 1-hour configuration
Launchpad	The launchpad leverages the SSO and federated accounts to provide easy identification of all applications that a user has access to and one-click navigation to them without the need to log in multiple times in most cases.	All district staff, students and potentially parents
Mtrax SSO	One of the applications that has leveraged MiDataHub SSO and launchpad is Mtrax. Any user who utilizes the same email address for Mtrax as they do in MiDataHub can access Mtrax from the launchpad without logging in a separate time.	District technology staff who use Mtrax
Manage Users	Users who are not provisioned in any other fashion can be manually added by a district. Data Hub System Administrators and Data Hub Staff can manage users across districts on any given data hub.	District tech contacts, data hub system administrators and data hub staff
Data Hub Reports/District Reports	MiDataHub have an integrated report framework that allows for new reports to be easily added and deployed. Current reports available include data quality, status reports, error check reports, and MSDS verification reports. Reports are available at both the hub level and the district level depending on the need.	District tech contacts, data hub administrators, and school staff who need reports
Agreement Reminder Email	Email reminders to superintendents to electronically sign agreements can be easily sent as needed.	Data hub staff and system administrators

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Open/Close District	When new districts need to be added or existing districts closed, this functionality provides a simple way to do that work.	Data hub staff and system administrators
ODS Anonymization	In order to demonstrate functionality of MiDataHub without jeopardizing student privacy, it is helpful to be able to work with anonymized data. This feature allows for a new and realistic data set to be created from an existing district's data.	Data hub staff and system administrators
Manage MSDS Submission Dates	On an annual basis, it is important to be able to update the due dates for CEPI MSDS submissions, as well as to make changes mid-year as needed. A simple interface exists to allow that functionality.	Data hub staff and system administrators
MSDS Error Check/Rules Engine	A flexible rules engine has been programmed into the Michigan Data Hub so that district data can be checked against the rules, allowing records to be corrected. The initial implementation was to add all CEPI MSDS rules for the error check process.	District state reporting staff and data stewards
MSDS Collection Extractor	The ability to generate the various MSDS data collection files has been created. Testing of these files is underway with a goal of certifying them for various SIS vendors by the end of the school year, June 2018.	District state reporting staff and data stewards
MSDS Collection Comparison	This feature allows for a districts MSDS file generated from their SIS to be compared with a file generated from MiDataHub. Records that are missing or do not match are identified, allowing for the data processes to be corrected. This functionality will be valuable for testing and certifying SIS vendors.	District state reporting staff and data stewards. SIS vendor feedback
Custom Export Tool	A tool was created to allow districts to design queries for data validation, and to facilitate export of data to other systems without the need for programming. This tool gives districts great functionality to answer questions, including legislative data needs.	District tech staff, data hub staff, ISD staff who may design re-usable queries for all districts
Exports Proposed for Sharing	When a custom export is designed that has value to other districts, it may be proposed for sharing. Functionality is in place to allow for that export to be reviewed and approved for use in other districts.	Data hub system administrators and data hub staff can approve. Any district technical contact may submit a request
Frequently Asked Questions	This feature serves as brief documentation for users of MiDataHub, providing critical information on a variety of processes.	Accessible by any data hub Cockpit user

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
System Inventory	Allows districts to record the data systems in use in their district. This information is used for identifying integration needs and was valuable for the ROI study. There is a desire to eventually leverage this for an online, navigable statewide inventory.	District tech directors and eventually interested parties in the information to inform purchasing and support decisions
Integration Inventory	Allows districts to record the status of integrations between their systems in the systems inventory. The information recorded assists with planning data integration needs.	District tech directors and eventually interested parties in the information to inform integration decisions
ODS Reset	Allows districts to clear their data stored in the ODS so they can start over with a fresh database, or if they choose to remove their data from MiDataHub.	District tech directors
Activity Log	Provides a consolidated view of the various integrations activities for district review. This review includes the log of the status of each integration and operation.	District tech directors, data hub system administrators and data hub staff review this information often
Audit Log	Provides an audit trail of all operations that occur with district data. Every time an integration is created, modified, activated, or inactivated it is recorded. This provides districts with confidence that they will know if something is done with their data.	District tech directors, data hub system administrators and data hub staff review this information often
Maintenance Scripts	Occasionally there is a need to run a program (script) to make changes to the district database. This functionality allows for well-tested and documented scripts to be executed by the districts.	District tech directors, data hub system administrators, data hub support specialists and data hub staff utilize this functionality
MiLearn Authorizations	Districts that utilize the MiLearn system are able to specify permissions for the various roles of users in their district.	District administrators and technology contacts will have this capability
MiLearn Compatibility Checks	Districts that utilize the MiLearn system are able to run a data check to make sure that all necessary data is available.	District technology contacts and data hub staff will run these data checks
MiExcel Authorizations	Districts that utilize the MiExcel dashboards are able to specify permissions for who has access to MiExcel and for which buildings in the district.	District technology contacts and administrators can set this information

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
UIC Automation	The Ed-Fi API has capability for system vendors to look up identification codes for students. This functionality has been linked to CEPI UIC routines, allowing systems to effectively look up and create UICs.	System vendors will leverage this functionality, allowing their systems to look up UICs and auto-populate them in their systems, saving districts time and ensuring more accurate data

Appendix D

MIDATAHUB ACTIONABLE DATA FEATURES AND INITIATIVES

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Early Childhood Data Exchange	Integration of Child-Plus (SIS used by Head Start) and GSRP approved assessments TS-Gold, and Highscope COR. Key to providing critical student developmental and academic data to schools to support the transition from Pre-K to K-12. Greatly enhances ability to track students from Pre-K programs into and through elementary school to assess program effectiveness.	100% of districts
Early Warning Intervention and Monitoring System (EWIMS)	Universal dropout prevention toolset. Research identifies clear impact on attendance and grades, both significant early indicators of potential student dropout.	100% of districts
Kindergarten Readiness Assessment (KRA)	The rollout of KRA as a new statewide assessment from 2018-2020 provides an opportunity to implement a common solution for rostering, administering and accessing information at the onset of this new initiative. Ensuring processes are consistent and streamlined will ease the burden of implementing a new assessment and will facilitate the sharing of this data as students transition between districts.	30% of districts in 2018 100% by 2020
MiRead	Online tool to support 3 rd grade reading law requirements, process, and supports. Includes consistent identification of students in need of IRIP, then to create, manage, and share student owned IRIP across districts.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
MiStudentData-Exchange	Developing an intermediate-level database that is fed from district DataHub databases to facilitate the creation of common applications and sharing of student data across districts. In the example of the new MiRead tool, schools will opt-in to the system. Once connected, only the data needed for the IRIP will be transferred to the MiStudentData-Exchange. There, data can be accessed to operate MiRead and other similar tools. Data will then 'belong to the student' and follow them when they change districts, immediately upon enrollment. Other examples include the Electronic Student Record Exchange and the Talent Transcript.	100% of districts
Student Record Exchange - Electronic CA60	Today, when a student moves between districts, a paper copy of their official student record follows them. However, the delay in requesting these records generally ranges from a week to six months. The electronic CA60, or Student Record Exchange will ensure that new schools have student records within minutes. This instantaneous access of data will ensure that students are placed in the appropriate grades and courses, and immediately receive much needed supports.	100% of districts
Student Supports and Enhancements (Intervention Catalog)	Standardized tool to inform and manage the assignment of interventions based on individual student needs. Enhancements include pre-populated interventions to encourage and support best practices. Will support programs such as EWIMS, MiRead, At-Risk, Title, and school improvement. The addition of "extensions" to support advanced students are planned for 2018.	100% of districts
Talent Transcript	An electronic, visual, transportable transcript that provides a more complete picture of student skills, experiences, and competencies. This tool will provide for academic, badging, credentialing, and competency-based display of student experiences and extend the use of the "transcript" beyond the 30% of college-bound students to all students, regardless.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Teacher Certification/MOECS	Planning has begun to integrate MDE’s teacher certification system along with a variety of teacher professional development platforms, including Michigan Virtual, REMC, and EduPaths, to automate the recording of professional development hours. Additional uses include eventual linkage of credentials to SIS, and scheduling applications.	100% of districts
Teacher Evaluation - SGP and SLO	In collaboration with MASSP, MEMSPA, MASA, and MASB tools will provide districts with Student Growth Percentile and Student Learning Objectives to streamline and provide increased consistency in the teacher evaluation process.	100% of districts

Appendix E

DISTRICT SUPPORT SPECIALISTS AND MIDATAHUB STAFF

MiDataHub Support Specialist Network

Name	Student Information System	Name	Student Information System
Brian McDonald (EUPISD)	Illuminate Ed., Powerschool	Peter Nethercott (Kent ISD)	Powerschool
LeAnn Szymanski (OAISD)	Infinite Campus	Stephanie Gabriel (Washtenaw ISD)	Powerschool
Oakland Schools Helpdesk	MISTAR	Greg Shepard (OAISD)	Powerschool, Infinite Campus
Dona Johnson (WMISD)	Powerschool	Bryan Smith (Ingham ISD)	Powerschool, Skyward
Garrett Burgett (Kent ISD)	Powerschool	REMC 1 Support (CCISD)	Powerschool, Skyward
Heidi Aldrich (GIRESA)	Powerschool	Mary Schinske (KRESA)	Powerschool, Synergy
Ian Haight (Berrien RESA)	Powerschool	Amber Sexton (Tuscola ISD)	Skyward
Jeff Fielstra (Muskegon ISD)	Powerschool	Jason Rasmussen (Saginaw ISD)	Skyward
John Londono (SJCISD)	Powerschool	John Milewski (Ionia ISD)	Skyward
Joseph Miller (Washtenaw ISD)	Powerschool	Patrick Loshaw (Saginaw ISD)	Skyward
Lisa Sutphen (Shiawassee RESD)	Powerschool	Tim Howard (Calhoun ISD)	Skyward
Lukas Enciso (VBISD)	Powerschool	Genesee ISD Helpdesk (GISD)	Synergy
Melissa Tront (SJCISD)	Powerschool		

MiDataHub Staff

Name	Role
Windee Wagner	Help Desk Support Specialist
Kevin Bullard	Support Manager
Dirk Bradley	Operations Manager
Tom Johnson	Actionable Data Manager
Don Dailey	Project Director

Appendix F

LINKAGES TO OTHER INITIATIVES AND FUNDING

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
3 rd Grade Reading	Transport roster and assessment results for approved assessments. Leading effort to develop statewide IRIP online tool.	100% of students
Algebra Nation, section 99c	Providing authentication and rostering data to Algebra Nation and capturing use data for districts and ISDs	100% of students
Career Planning	Actively integrating student data, contact information, rostering for Career Cruising.	75% of students
Directory Information, HB 5140, section 1139a	Exploring development of directory reporting tool with local options and standard exports and reports	100% of students
Educator Evaluation, Value Added Growth 95b	Working with MASSP and other associations to deliver student growth percentile data and on possible development of common student growth calculation tools.	100% of students
GSRP, Head Start, and other Pre-K Programs	Coordinating with statewide committees and vendors to connect CORE and TS-Gold Assessments and ChildPlus SIS	75% of students
First Robotics	Bading and Talent Transcript efforts will support students	10% of students
Food Service / Direct Certification	Working with MDE departments on enhancing direct certification (identification of eligible students) and automating billing and reimbursement processes to save schools time and improve cash flow for food service programs.	100% of students
Imagine Learning, section 99u	Initial planning for rostering and usage data (see 99c above)	100% of students
Kindergarten Readiness Assessment (KRA)	Working to connect KRA for student rostering and assessment results prior to required pilots, summer 2018	25% of students for 2018-19 school year, 100% by 2021
MiSTEM Section 99s	Included in the MiSTEM Committee recommendation as a required component for participation. Providing data consistency and the ability to track MiSTEM efforts.	100% of students

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
MiLearn	Online portal, leveraging single-sign-on from local district parent and teacher portals to provide access down to student level MSTEP and WIDA reports. Note, MiDataHub is the only pathway for MDE to connect students and parents, in partnership with local districts. Should replace the color printing of over 500,000 copies and result in significant cost savings.	100% of students
Minecraft, section 64d	Developing single-sign-on and license deployment for 175,000 Microsoft licenses for MineCraft.	12% of students

Appendix G

MIDATAHUB ADVISORIES

MiDataHub Actionable Data Advisory

Name	District	Title
Frank Holes	Allegan AESA	Data & Improvement Specialist
Mitch Fowler	Battle Creek Public School	Administrative Director, Data / Innovation
Mike McGroarty	CEPI	Longitudinal Data Manager
Trina Anderson	CEPI	Assistant Director
Tim Davis	Charlevoix-Emmet ISD	Instructional Technology Coordinator
Tammy Hereau	Delta Schoolcraft ISD	Gen Ed/School Improvement/Data
Marianna Ripple	EUPISD	Data / Instructional Technologist
Susan Brummel	Kent ISD	School Improvement Consultant
Stan Masters	Lenawee ISD	Coordinator, Instructional Data
Kristie Martin	Macomb ISD	Director
Shawn Cannarile	MDE	MDE Consultant
Kaitilin Ferrick	MDE – HeadStart	Director
Michelle Ribant	MDE, P20 Data Office	Assistant Director
Dave Cairy	Michigan Collaboration Hub	Director
Tonya Harrison	MOISD	Director of General Education
Heidi Kattula	Oakland Schools	Executive Director
Joyce Sackleh	Oakland Schools	Director of Applications
Andrew Henry	Red Cedar Solutions	President
Kathy Miller	Shiawassee RESD	Executive Director, instructional Services
Melissa Tront	St Joseph County ISD	Database Administrator
Diane Talo	St. Joseph ISD	Director of Instructional Leadership
Cindy Taraskiewicz	Wayne RESA	MTSS Coordinator
Lisa Lockman	Wexford-Missaukee ISD	Director of General Education
Brandi-Lyn Mendham	Zeeland Public Schools	Director of Curriculum & Technology

MiDataHub Data Integration Advisory

Name	District/Agency	Title
Tom Howell	CEPI	Director
Trina Anderson	CEPI	Assistant Director
Doug Jarvi	Copper Country ISD	System Engineer
Jason Kronemeyer	EUPISD	Director of Technology
Glen Finkel	Kent ISD	Director of Technology
Brian Schupbach	KRESA	Assistant Superintendent
Phil Carolan	Lenawee / Monroe ISDs	Director of Technology
Kristi Martin	Macomb ISD	Director, Management Technology
Dave Judd	MDE - P20 Data	Director
Michelle Ribant	MDE - P20 Data	Assistant Director
Joyce Sackleh	Oakland Schools	Director of Applications
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Appendix H

HISTORICAL DATA INTEGRATION EFFORTS

For as long as schools have been collecting data, there have been challenges in entering, managing and using that information. In recent years, the number of data systems that districts utilize has increased dramatically as they adopt a wider variety of educational tools and student knowledge is assessed more often as part of the learning process. [An Education Week article](#) references the “fragmented nature of data systems in school districts” as well as the fact that “a lot of school data are siloed.”

There have been many attempts to solve this issue over the years. The fact that the issue remains for schools is a testament to the difficulty of the situation. In 1999, a platform called Schools Interoperability Framework (SIF) was introduced as the first standards-based approach to solve this issue on a broad scale. SIF involved exchange of data in a standardized format, referred to as XML format, the same format which is currently used for Michigan State reporting to CEPI. SIF could route the information to each software application that a school used. While the technical solution was ahead of its time, the complexity of it made it difficult and costly for districts and software companies to implement, thus it was never widely adopted.

In 2006, the Michigan School Business Officials (MSBO) led an initiative to establish standard data definitions for student, financial and HR/payroll applications statewide. The Statewide Software Initiative (SSI), was a collaborative initiative involving ISDs and districts statewide. Ultimately, SSI struggled due to a lack of funding to support the work and the reliance upon school staff who lacked the time to work on the project.

The next initiative was the Regional Data Initiatives (RDI) grant. This grant spun up numerous data warehouse implementations that were designed to bring together data from disparate systems for district use. The RDI projects faced several challenges, ranging from difficulty in data integration, reliance on existing staff that were spread too thin, minimal collaboration between projects, to vendors not fulfilling their promises on products, and services and ultimately to difficulty sustaining the work.

In 2012, planning was started on the Technology Readiness Infrastructure Grant (TRIG), which included a data integration project. Armed with a more collaborative process that leveraged data experts statewide, a dedicated project manager, and a toolkit with newly formed national data standards from the Ed-Fi Alliance, MiDataHub concept was born and quickly began to gain support. The resulting Michigan Data Hub (MiDataHub) has exceeded the progress of all the preceding efforts, establishing a functional, reliable, secure, and scalable infrastructure that is beginning to deliver on the promise of interoperability.

Appendix I

Glossary and Web References

GLOSSARY

- AimsWeb – An assessment developed by Pearson Education. The current version is called AimsWebPlus and is one of the approved early literacy assessments.
- API – Application Programming Interface. An API is the basis of interoperability, allowing other programs to receive data (GET), write data (POST), update data (PUT) and remove data (DELETE) from or to the Michigan Data Hub in a secure manner. It is the most flexible of all integration types and can be put into place very quickly with just a few pieces of information.
- Data Hub – A hosting location where district information is managed for the districts in a region.
- Data Hubs – All MiDataHub hosting locations collectively, and often substituted for the Michigan Data Hub.
- DIBELS – Dynamic Indicators of Basic Early Literacy Skills. This assessment was originally developed by the University of Oregon and now is also delivered by the Dynamic Measurement Group as DIBELS NEXT. This is one of the approved early literacy assessments.
- Ed-Fi – The Ed-Fi Alliance (www.ed-fi.org) is a non-profit funded by the Michael and Susan Dell Foundation out of Austin, TX. The Ed-Fi Alliance produces a free, open, standards-based toolset which is leveraged by the Michigan Data Hub.
- EEM – Educational Entity Master. This is the official CEPI database of all of the school entities in Michigan such as districts, buildings, and programs, along with numerous details about each.
- FID – Financial Information Database. This CEPI database includes data collected from district financial accounting systems tied to common account codes.
- Funding Year – The funding year for the 22m is October 1, 2017 to September 30, 2018.
- HighScope – Vendor that provides the COR Advantage assessment, which is a birth-to-kindergarten assessment that assists teachers in supporting children at every developmental level — including children who are English Language Learners and those with special needs.
- Illuminate – Illuminate Education has three products widely used in Michigan including their Illuminate Student Information (ISI), Illuminate Special Education (ISE), and Illuminate Data and Assessment (DnA).
- Integrated System – A vendor system that has established connectivity with MiDataHub for testing and/or production.

- Integration – The exchange of key information between data systems to keep the systems in sync.
- Integration Instance – An integration of data between MiDataHub and a data system for a specific district.
- Interoperability – The seamless, secure and controlled exchange of data between different applications and technologies, as defined in an [Edsurge article](#).
- ISD – Intermediate School District. One of the 56 regional service agencies that assist districts in their region with a variety of educational services.
- KEA – Kindergarten Entrance Assessment. Michigan’s KEA is an authentic observational system for assessing children in the first 45 days of kindergarten that has proven to be valid and reliable. It helps teachers observe children in the context of everyday experiences, which is an effective way to get to know them well and find out what they know and can do. MDE has selected Teaching Strategies GOLD® online, an observation-based assessment system, for use as the KEA, and has customized the tool to meet the needs in Michigan.
- KRA – Kindergarten Readiness Assessment. An assessment that gauges a student’s readiness to enter Kindergarten.
- Michigan Data Hub – Represents the overall interoperability initiative as well as a collective representation for MiDataHub.
- MiDataHub – Pronounced “My Data Hub” is an abbreviation commonly used for The Michigan Data Hub.
- MiExcel – MDE initiative to provide supports to priority and focus schools. Part of that work includes building a set of dashboards to assist school, district, ISD and MDE staff in monitoring the progress of the priority and focus schools.
- MiLearn – Michigan Linked Educational Assessment Reporting Network. MDE initiative to put state assessment data, such as M-STEP, MiAccess, and WIDA, in the hands of students, parents and educators through an integrated solution.
- MiRead – Proposed name for the tool being created by the Michigan Data Hub team to provide a statewide IRIP tool for districts to use to address the “3rd grade reading law”.
- MiSEN – Michigan Statewide Education Network. This 501c3 manages an ever-growing, secure, high-speed statewide network connecting educational entities. This is also used to refer to the network itself.
- MiSTEM – Michigan Science, Technology, Engineering, and Mathematics Network. Michigan, together with business, education, and community partners, is embarking on a journey to create a MiSTEM Network throughout the state. The goal is to establish a system that will produce STEM-equipped students and educators.

- MOECS – Michigan Online Educator Certification System. MOECS is a secure web-based system that allows educators to register and create private accounts and have access to all of their certification data, apply for certificates and endorsements, and renew their certificates.
- MSDF –Michael and Susan Dell Foundation. Funder and parent organization of the Ed-Fi Alliance.
- MSDS – Michigan Student Data System. This is the CEPI collection that gathers student data to use for numerous purposes from federal reporting to pupil accounting.
- M-STEP – Michigan Student Test of Educational Progress. Assessment delivered to public schools students in grades 3-8 and 11.
- NWEA – Northwest Evaluation Association. Provides a variety of assessments used by schools in Michigan and nationwide. This is one of the approved early literacy assessments.
- ODS – Operational Data Store. The database where district data is housed. Each district has an ODS with their own data for each school year. All integrations and interoperability are provided for a district from their ODS.
- OneRoster – One of many standards specified by IMS Global. OneRoster is used for the exchange of roster information.
- REP – Register of Educational Personnel. This is a CEPI collection that gathers detailed information on school staff statewide.
- RESA – Regional Educational Service Agency. Another name for Intermediate School Districts (ISDs).
- SGP – Student Growth Percentile. An SGP describes a student's growth compared to other students with similar prior test scores (their academic peers), specifically the M-STEP.
- SLO – Student Learning Objectives. SLOs are measurable, long-term, academic goals, informed by available data, that a teacher or teacher team sets at the beginning of the year for all students. Education legislation in Michigan requires that the student growth and assessment component of a teacher's evaluation consist of the state student growth and assessment measurement standards and a local student growth assessment. SLOs are one way to measure the academic growth of students.
- SFTP – Secure file transport protocol. A secure, encrypted method of sending data files.
- STEM – Science, Technology, Engineering and Mathematics.
- TS GOLD – Teaching Strategies GOLD Online Assessment. This assessment was selected by MDE for use as the Kindergarten Entrance Assessment (KEA). See the entry on KEA above for more details.
- Uptime – The percentage of time in minutes that the hubs are up and running.
- WIDA – WIDA ACCESS assessment for English Language Learners. The ACCESS for ELLs 2.0 suite of assessments comprises secure large-scale English language proficiency assessments administered to Kindergarten through 12th grade students who have been identified as English learners (ELs). The assessments are given annually in Michigan to monitor students' progress in acquiring academic

English, and include Kindergarten ACCESS for ELLs, ACCESS for ELLs 2.0 online and paper-based, and Alternate ACCESS for ELLs.

- XML – eXtensible Markup Language. A very flexible, and generic data format. It can describe data in a very comprehensive manner.

WEB REFERENCES AND BACKGROUND RESOURCES

- Legislative Language https://docs.google.com/document/d/1lIrma00ZWozgtdj3BGHUOLgsD2vVrpA9D7GzfuECg_s/edit?usp=sharing
- MiDataHub Website www.midatahub.org
- MiDataHub Video https://drive.google.com/file/d/1_2yFzxEXztmz3XmHpuEN2td1ygdsQZp3/view
- Ed-Fi Alliance <https://www.ed-fi.org/>
- Ed Surge Article 1 <https://www.edsurge.com/research/guides/what-does-it-take-to-make-interopability-work-in-k-12-education>
- Ed Surge Article 2 <https://www.edsurge.com/news/2017-10-28-tool-project-unicorn-making-the-mythical-idea-of-data-interopability-real>
- Project unicorn <https://www.projunicorn.org/>
- Education Week Article <https://www.edweek.org/ew/articles/2013/03/14/25datadelivery.h32.html>