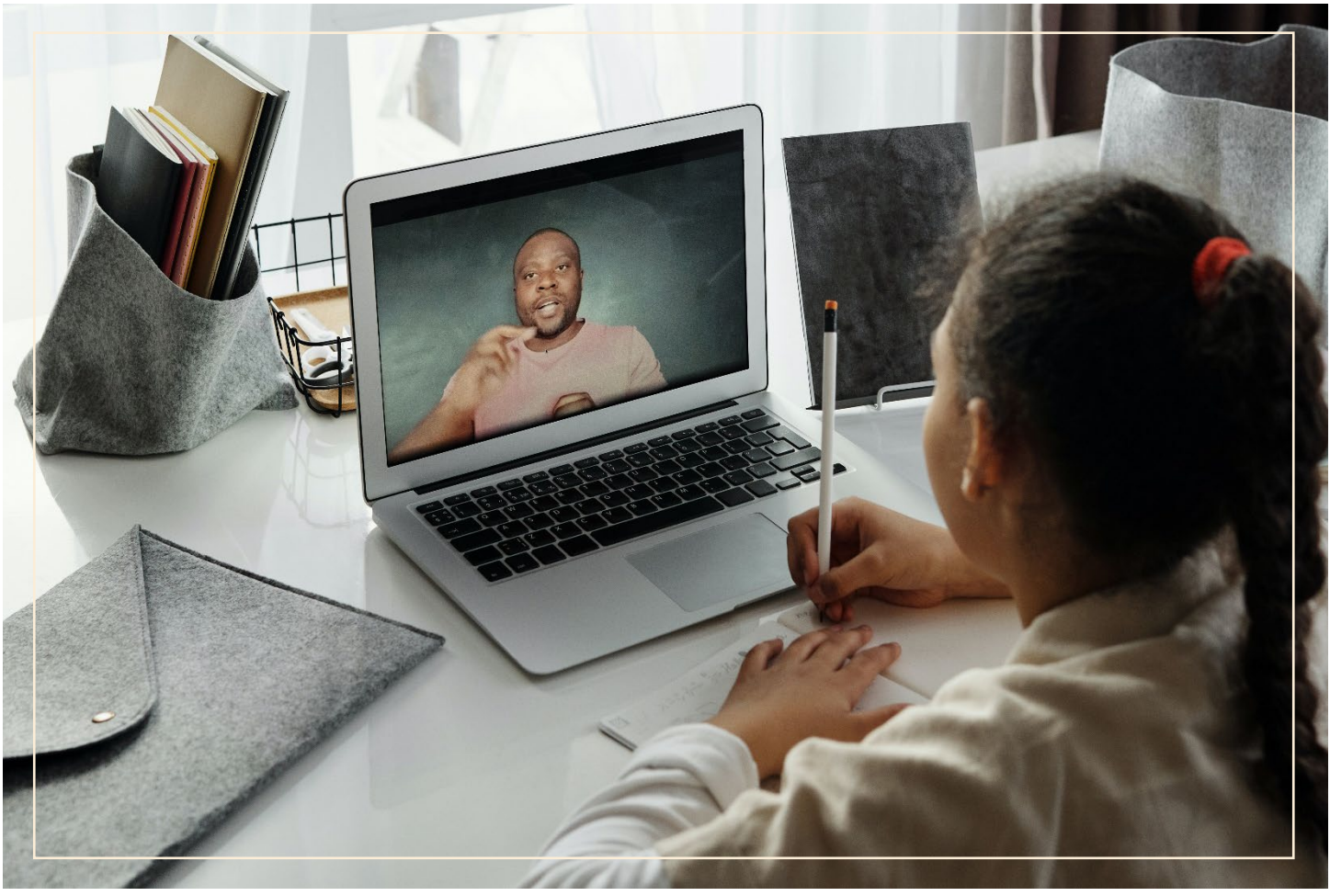
LEGISLATIVE REPORT

2020-2021

Section 22m

Michigan Data Hub Grant Progress



CENTER FOR EDUCATIONAL PERFORMANCE AND INFORMATION

MICHIGAN DataHub

Table of Contents

Foreword

Michigan is moving! Yes, it is true; we are moving to adopt, embrace and leverage the power of shared data standards at the state and local levels. There is no magic to making this happen, but there is really tedious, mind-bending, HUMAN efforts at the state, regional, and local levels to build strategies and tools that make our daily interactions more efficient, less redundant, and more actionable in support of teaching and learning.

The Michigan Data Hub is more than a data integration tool. It is a face and voice of a collective effort to ensure that the systems, tools and data we rely on to perform the many important facets of our work in public education can be done more securely, more efficiently, and more effectively when we align our efforts and work together at all levels. Many of our efforts this year have focused on expanding the footprint of integrations of tools and services that school districts want to use to deliver targeted education services locally. We've also worked hard to ensure the we use the good thinking at all levels of the education system to align resources and approaches to lift up the collective technical ability to further connect and leverage available data, work methods, and tools for many purposes. We continue to see and hear of many success stories from private sector participants in this journey, companies who have been able to speed their products to the Michigan market much more efficiently and effectively with the power of data standards and integration strategies being put into place in Michigan.

We continue to be proud of our many state, regional and local technical partners who are working together to ensure local choices can be sustained, enhanced really, to do the very best work supporting public education. By bringing together the use of shared data standards, shared technical best practices, and efficient and effective methods for integrating and leveraging the many system offerings that support public education, we empower every school district in Michigan to make the best choices for the families they serve.

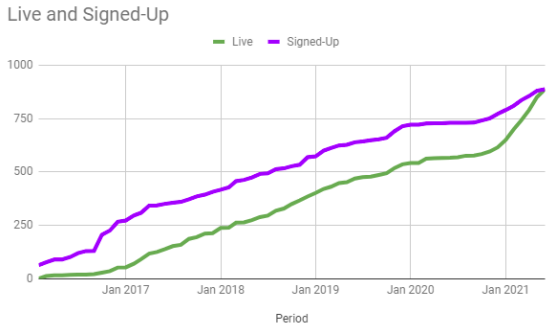
We look forward to sharing more with you in this school year 2020-21 annual report. Thank you for your continued support of our "move" to a better future.

Thomas Howell
Executive Director
Michigan Department of Technology, Management and Budget
Center for Educational Performance and Information (CEPI)

Executive Summary

"MiDataHub solves our problems with time-consuming, redundant and inaccurate data entry. School district personnel can now enter all the student information in just a few minutes rather than taking days, weeks or sometimes months." **— Michael and Susan Dell Foundation**

See www.midatahub.org for a short animated vision of MiDataHub



PROMOTING 100% DISTRICT ADOPTION

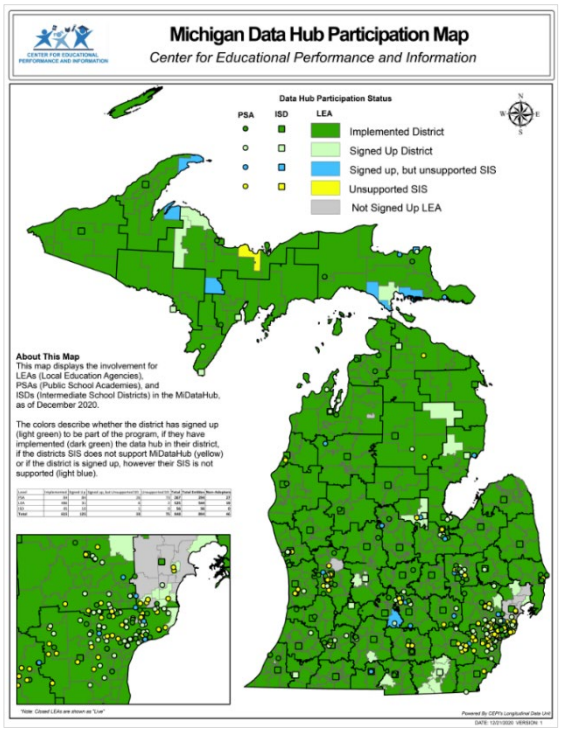
Active district connections to MiDataHub infrastructure have increased from 536 at this time last year to 615 today, with another 96 districts ready to be implemented in the next 45 days. As of December 2020, total participation increased by 54 for a total of 772 districts of 887 (87%) and 1,372,026 students or 90% of Michigan's K12 population are participating.

EMPOWERING SCHOOLS AND VENDORS TO WORK TOGETHER

MiDataHub has enabled the vendors Career Cruising/Xello, Eidex, the Northwest Evaluation Association (NWEA) and SAS to scale the connectivity of their products rapidly. SAS leads the way with 309 districts connecting to its Education Value-Added Assessment System (EVAAS) tool. Eidex has 279 districts connected, 268 districts are configured to load NWEA assessment data into MiDataHub, while CareerCruising/Xello has grown to 177 connected districts. Other vendors are also beginning to leverage this valuable resource.

INTEGRATING SCHOOL DATA SYSTEMS

MiDataHub is currently providing 4,337 active connections (integrations) between school data



systems today, a 26% increase from one year ago.

The total annual value of these integrations is over **$30 million**. This is money that districts would ordinarily spend to make similar connections or manually enter data, thus allowing schools to invest these resources more directly in the classroom.

"The integration of the MiDataHub has made using and problem solving with data a lot easier for our school and we are excited for it to be fully functional."

— Tracy LaPlante and Lori Wisniewski, Baraga Schools

Actionable Data

Over the past year, actionable data opportunities for MiDataHub have emerged on multiple fronts. Five examples stand out in the areas of Classroom Supports, District Improvement, and Promoting Evidence and Research-Based Practice — and are highlighted below. These value-added "Powered by MiDataHub" features are opportunities that exist solely because of the standardized flow of data through MiDataHub.

SUPPORTING OTHER LEGISLATIVE INITIATIVES

1. **Third Grade Reading Law:** In addition to the MiRead web application (pages 24 to 25 for more details.) that assists educators in the implementation of section 1280f of the Revised School Code, MiDataHub is partnering with MERI (Michigan Educational Research Initiative) to provide access for research. Launched in August 2020 under the working name of, 'MiResearchPortal', this is a first of its kind collaboration to streamline and enhance the data available to researchers. As of December 21, 2020, over 300 school districts have agreed to share data for this research project. By signing the data sharing agreement, districts allow MiDataHub to share data safely and securely with the MERI research team at the University of Michigan without additional effort at the local level.

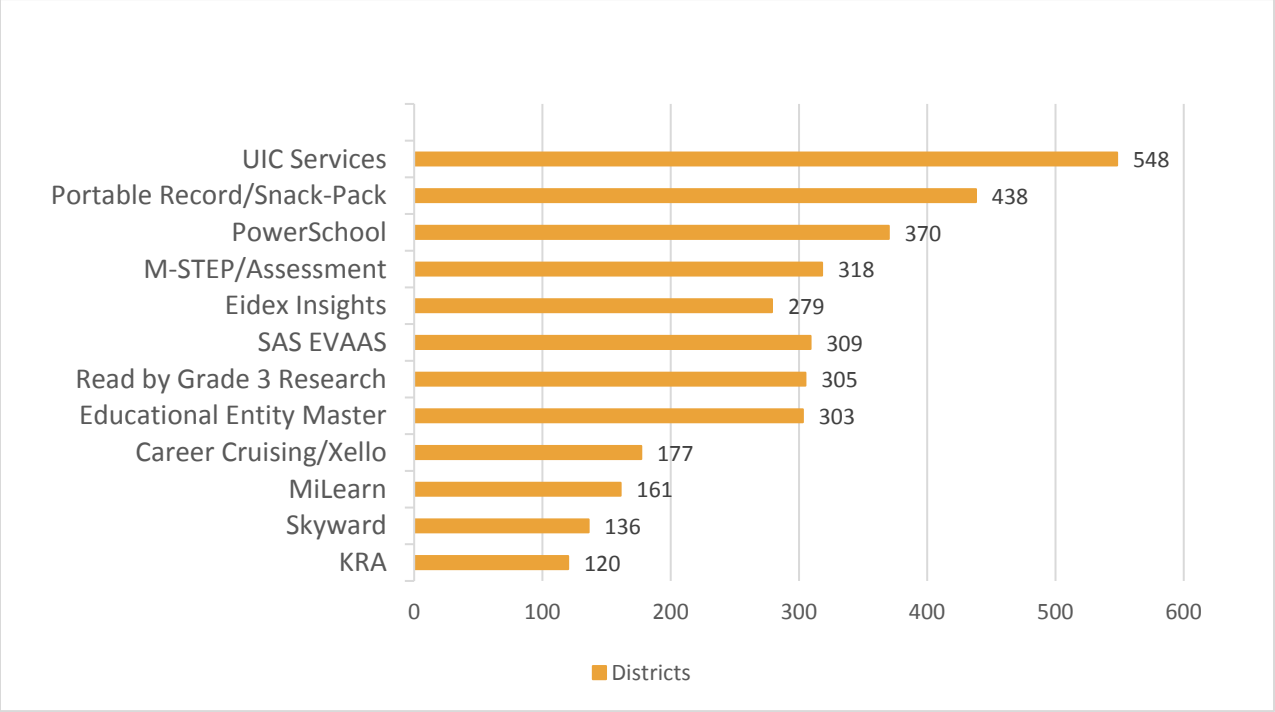
2. **MiLaunchPad:** To reduce the number of usernames and passwords that district staff and students are required to maintain and to reduce user account management efforts, MiDataHub created the MiLaunchPad Single Sign-On (SSO) system. MiLaunchPad allows districts to 'federate' or connect their local email system and accounts. Logging in using standard email and password can allow access to a growing range of systems. MiLaunchPad is currently used in MiStrategyBank, MiRead, MICIP, and MiEWIMS (under development) and is offered as a service for local data systems (e.g. Xello's Career planning tool), eliminating the need for districts to create and manage thousands of accounts.

3. **MiEWIMS:** Michigan's Early Warning Intervention and Monitoring System is under development. Pilot testing is starting in February of 2021. MiEWIMS is powered by MiDataHub, MiDataExchange, MiLaunchPad, and MiStrategyBank to allow for dropout prevention efforts in local schools and districts. MiEWIMS automates the flow of Attendance, Behavior, and Course grades (the ABC's research has identified as leading indicators of high risk for dropout). Working in partnership with the Michigan Collaboration Hub at MAISA and the MiMTSS Technical Assistance center, MiDataHub is assisting in the development of this new system that will provide actionable data to effectively identify needs, select proven strategies, and implement supports at the district, school, and individual student levels.

4. **MiStrategyBank:** MSB is an electronic clearinghouse of strategies designed to connect educational data systems, promote and support best practices, and provide information regarding the implementation of strategies in use to support Michigan's education system. MiStrategyBank serves as a single point of contact for evidence and research based best practices in Michigan. It provides information directly to MiRead and MICIP and will be connected to MiEWIMS in the coming months. It also plays a critical role in research efforts as it ties strategies to students, buildings, and districts through MiDataHub to assessment and other key outcome data.

5. **MICIP:** Michigan's Continuous Improvement Process is a research-based process for schools and districts to assess needs, build improvement plans, and leverage funding to improve student outcomes. In Partnership with MDE, and MAISA, the MiDataHub team has collaborated on the development of the online platform to support this process. The MICIP Platform is a culmination of MiDataHub efforts from the past six years. The system relies on MiLaunchPad for secure and accurate district user accounts and access. It leverages MiStrategyBank to access evidence and research-based strategies to achieve district goals. The MICIP platform incorporates dropout prevention data and visualizations from MiEWIMS. MiDataHub 'powers' all of these other systems, and it provides data and visualizations on a wide range of critical and actionable data from local data systems. This better informs the process and streamlines the efforts of every district in Michigan to improve student outcomes.

TOP DOZEN ACTIVE INTEGRATIONS



ACTIONABLE DATA EFFORTS

1. **MiRead** supports K-4 reading in nearly 100 districts.
2. **MiStrategyBank** delivers research-based literacy strategies to MiRead, MICIP, and MiEWIMS.
3. **MICIP:**
    a. Is being piloted in 9 LEAs, 1 PSA, and 2 ISDs,
    b. Goes live statewide to all districts on January 4th.
    c. And is powered by MiDataHub, MiDataExchange, MiLaunchPad, and MiStrategyBank.
4. **Approved early literacy and State identified Benchmark assessments** are integrated with MiDataHub, including Acadience Reading, AimsWebPlus, iReady, NWEA and Star Reading.

615
live districts

Over **150,000** *UIC transactions processed for* ***429 districts*** *– 56 more districts than in 2019*

Over
33,000
new UICs created

Over
4,300
integrations in use

Over
1.2 million
student records

MICIP User Agreement has been electronically signed by
424 districts

OneRoster API and CSV integrations can connect
310 products

M-STEP Data Transfer went live and already configured for
318 districts

305 districts
have opted into sharing data via MiDataHub for an IES Grant to study the effectiveness of the Read by Grade 3 law

506 districts
have their logins connected to the MiDataHub SSO

438 districts
have opted in for the Snack-Pack feature. ***96 districts*** *have used the Snack-Pack in the last two weeks, for over 1,700 requests.*

Snack-Pack deployed in all 5 primary Student Information Systems

MiDataHub was consolidated from 5 hubs to a single hub located at Oakland Schools

Successfully upgraded to Ed-Fi v3.1

Introduction

Section 22m legislative language requests the following:

> *"Not later than January 1 of each fiscal year, 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 the house and senate fiscal agencies."*

The Executive Summary and Actionable Data sections above are designed to provide a standalone four-page overview and highlight a few of the key areas of progress and 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. This progress report, in the context of 22m funding, is based on a full year of grant funding.

What should become clear in a review of this document is that:

- District adoption continues to increase rapidly.
- Schools are saving considerable time and money.
- MiDataHub has created an ecosystem to support equity in school data.
- A diverse array of educational efforts is being supported and enhanced.

MiDataHub already supports students, parents, teachers, administrators, schools, districts, the Michigan Department of Education's (MDE) efforts and the requirements of the Center for Educational Performance and Information (CEPI) and the importance of maintaining this effort grows daily. By improving access to, and the quality of educational data for *all* stakeholders, MiDataHub is demonstrating a multi-fold return on investment (ROI). Last year, we reported that the value of the integrations facilitated by MiDataHub was over $25 million. This year, that number has increased to well over $30 million, a tremendous return on this annual legislative investment in public education.

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. Statewide, this is a reduction from tens of thousands of redundantly created and managed integrations to less than one hundred, all centrally managed on behalf of all of Michigan's local and charter public schools. A study by the Digital Promise League of Innovative Schools finds that "74% of districts use 26 different Ed-tech or software tools/products" and "only 33% of districts report that they have more than half of their teaching and learning tools linked with their student information system." MiDataHub currently provides 4,337 integrations for Michigan districts, an average of 7.0 integrations per district. These numbers will continue to grow as MiDataHub scales to nearly 900 districts connected and integrates a great number of systems, resulting in tremendous cost savings and efficiency.

Findings

LEGISLATIVE GOAL 8A

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 MiDataHub team worked extensively over the 2020 calendar year to improve and enhance the MiDataHub infrastructure. As mentioned in last year's report, we worked with the Michigan Collaboration Hub (MiCH), the Statewide Education Network (SEN) and the Michigan Educational Technology Leaders (METL) to explore hosting options. As COVID started to set in this spring, the group had just determined that it would be beneficial to consolidate the five data hubs to one. They also felt strongly that we are not quite ready as a state to host the system in a cloud environment. As we searched for an education-based host, Oakland Schools stepped up as a hosting option that was as cost-effective as cloud solutions and with many of the scalable benefits that the cloud typically offers. In August 2020, the consolidation work was successfully completed, and the school year started with a single hub at Oakland Schools. So far, this move has proven to be both cost-effective as well as convenient. We are currently in the process of decommissioning the former data hubs.

The movement of data in MiDataHub is managed using the Ed-Fi Alliance data standard. This standard is based on the Common Education Data Standards (CEDS), which is the same data standard that the state is using to upgrade the SLDS for compliance reporting, analysis and reflecting the data on the MI School Data educational data portal. In addition to the consolidation work, the other major change that occurred this year was the upgrade from Ed-Fi v2.4 to v3.1. This upgrade was no easy task, as the MiDataHub code base has grown extensively since its inception, and almost every piece of code had to be touched. As a result, the consolidated infrastructure at Oakland went live with Ed-Fi version 3.1 for the 2020-21 school year, with a base level of functionality converted and ready for use, but a fair number of items that still needed to be upgraded. As we write this report, most of those items have been completed, with the few remaining pieces slated for completion in Q1 of 2021. The work has been prioritized to minimize impact on districts and their use of MiDataHub.

In addition to Ed-Fi, another standard that is being used for interoperability is OneRoster. OneRoster was created by IMS Global, which has created interoperability standards for other types of information, including educational resources. OneRoster is much narrower in 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) on top of the Ed-Fi data store allows MiDataHub to be multilingual with respect to data standards. When a system needs just roster data, the OneRoster API can provide that capability. When more robust information is needed, or data needs to flow bi-directionally, the Ed-Fi API is preferred. Work on a read-only version of the OneRoster 1.1 application programming interface (API) was completed in 2018. The MiDataHub OneRoster API implementation was certified by IMS Global in May 2019 and recertified in October of 2020. Several vendors were able to successfully access the API for districts, including Discovery Learning, Follett, Houghton Mifflin Harcourt, McGraw Hill, Microsoft and Pearson. Going forward, any application that can use the OneRoster API can automatically be integrated with MiDataHub. This functionality has accelerated the integration of data systems and is helping to drive district adoption. Development work began in 2019 to allow for assessment data to be written via the

API, adding more flexibility and options for district users. This work has been completed and is currently in testing. Finally, we expect to upgrade to OneRoster 1.2 in the 2021 calendar year.

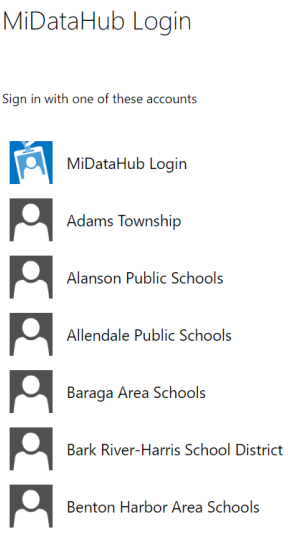
New to the MiDataHub infrastructure in 2018 was the creation of the Michigan Data Exchange (MiDataExchange), which was created to provide data for the MiRead and MiStrategyBank applications. Typically, district data is stored in an operational data store (ODS) specific to that district. When districts opt into MiDataExchange, the portion of their data that is needed to power statewide applications is put into the data exchange. This allows for districts to have the data that they need for applications and to create student plans and other content that can move to other districts as the student moves. Currently, the data exchange houses information for nearly 100 districts in the state, primarily due to the use of it for MiRead. This year we expect the use of MiDataExchange to grow significantly as it will be used for two additional systems – the Michigan Early Warning Intervention Monitoring System (MiEWIMS) and the Michigan Integrated Continuous Improvement Process (MICIP) tool that is being developed by MiCH in collaboration with MDE.

MiDataHub's use of data standards has also had a tremendous impact on state agencies such as CEPI and MDE. These agencies use state-specific data elements and data structures; however, these data standards did not exist when the systems were first implemented and thus are not in place currently between Michigan's collection systems, the longitudinal data system (MSLDS), and our public-facing web portal (MI School Data). Because of this, multiple transformations of the data are necessary to move data between systems, and modifications to any data element can have a significant effect at all levels.

CEPI and MDE have begun planning for a revision of their data elements and structures to be based on the nationally recognized Common Education Data Standards (CEDS). These elements and structures would be standardized across the collection systems and MSLDS. Further, the MI School Data portal has been redesigned to be more flexible and streamlined, reading data from MSLDS instead of having its own set of data elements and structures.

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 down and compares that to the number of minutes the system could be available to determine an uptime percentage. The metrics established to receive the grant funds indicated a target of 99.x% uptime. Through 12 months of the 22m funding from January to December, the uptime has averaged 99.9%, meeting this goal. This will continue to be tracked during the funding year to ensure that uptime remains at or above this level.

A final aspect of infrastructure that grew substantially during 2020 was the MiDataHub Single Sign-On (SSO). Since its inception, MiDataHub has always provided a method to log into the various applications that the initiative accesses. In addition to creating logins in MiDataHub directly, it is possible for districts to connect their Google Suite and Microsoft Active Director (AD) logins to the MiDataHub SSO, allowing students and staff to log into applications using the same logins they do in their district (see image, right). This process, called federation, typically takes about 15 minutes for a district to set up. At present, 506 districts have completed the process and that number is growing rapidly. The number of applications that federated logins can access is also expanding, with vendors like Career Cruising and Xello recently connecting their systems to



the MiDataHub SSO and launchpad, along with statewide applications such as MICIP.

LEGISLATIVE GOAL 8B

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

In the first several years of the project, the major focus was on the integration of Student Information Systems (SIS), as they represent most of the data that districts track. Due to the upgrade to Ed-Fi v3.1, SIS vendors had to redo their connections. As of this report, 5 of the 6 major SIS systems have successfully made the upgrade. The system that has not made those changes, eSchoolPlus, will be supported in the short term by MiDataHub "upsizing" their version 2.4 data into version 3.1. That upsize process has just been tested and we are beginning to bring those districts on now for the 2020-21 school year. With the SIS integrations largely functional, efforts are ramping up to achieve additional vendor adoption. As of the last legislative report, there were 45 integrated systems with 3,431 instances of those integrations in use. As of this report, more than 350 systems are capable of integration, with 4,337 instances of those integrations in use.

MiDataHub continues to rely on a vendor relations manager to engage vendors and move them through the process of having supported integrations. The duties of this position involve gathering integration needs from the field, engaging identified/prioritized vendors, coordinating vendor status meetings, conducting monthly webinars, overseeing vendor certification, creating and managing a vendor advisory board, monitoring data quality of integrated systems, facilitating vendor support through the development process, developing models for sustainability and strengthening ongoing vendor relations.

The significant growth in integrated systems mentioned above, from 45 to over 350, is most largely a result of the implementation of the OneRoster API as well as support for OneRoster comma separated value (CSV) files that was developed this year. IMS Global, the non-profit organization that maintains the OneRoster data specification, maintains a catalog of connected systems. That catalog currently shows 141 products are connected via the OneRoster API, and 286 products are connected via the OneRoster CSV. Of the 427 possible integrations, eliminating duplicates that have both an API and CSV integration yields 310 OneRoster capable systems. This does not include the numerous products that support OneRoster connections but are not certified. An upgrade to OneRoster 1.2 in 2021 will keep MiDataHub on the forefront of connectivity with the growing number of OneRoster capable systems.

The number of active integrations has grown from 3,431 last year to 4,337 at present. The actual number of integrations has grown more dramatically, however, as some integrations are currently turned off pending corrections for Ed-Fi v3.1. If we were to consider the temporarily disabled integrations, the actual count will be over 5,500 once these integrations are reactivated. The increase in integrations, even with a significant number of them disabled, is due in large part to districts configuring and connecting virtual learning applications to help educate and support students during this pandemic.

The need for common integrations has never been so important as it has been this year. In addition to the virtual learning applications mentioned above, Public Act 149 of the Return to Learn legislation seeks to use benchmark assessment data from four MDE identified assessments to gauge the effects of COVID-19 on student learning. One or more of these four applications will be used by most of the districts in the state, with a few choosing to use either local benchmark assessments, or other less-common assessments. MiDataHub will support the loading of benchmark assessment data from these

systems so that it can be aggregated and sent to CEPI as indicated in legislation. The four assessments identified by MDE are Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP), Curriculum Associates iReady, Renaissance Star, and DRC Smarter Balanced Assessments. At present the NWEA MAP integration, used by most districts, has been upgraded to Ed-Fi 3.1 and is being deployed. Curriculum Associates has configured its software to provide data via the Ed-Fi 3.1 API and is already sending data for several districts. Work is in progress on updating an import for Renaissance Star to Ed-Fi v3.1, with an expected completion in February 2020. Finally, DRC is working to complete an API integration with a target date of 3/31/2021. This should provide districts time to load their assessment data by the June 30, 2021 deadline.

One of the benefits of having integrated systems, is that often those integrations can be enhanced to provide additional functionality. We have already seen this in prior years, adding UIC services and the portable records (Snack-Pack) functionality to SIS system integrations. The integration of these systems doesn't increase the number of integrations, but greatly improves the benefit that districts receive from the existing connections. Due to the COVID pandemic, many have been interested in understanding Digital Equity as it pertains to students' ability to access the internet for learning. MDE and the Council of Chief State School Officers (CCSSO) have asked MiDataHub to support the Digital Equity Data Collection. This collection gathers information about student internet access and the devices they have access to use for online learning. The Ed-Fi Alliance, working with the State of Wisconsin, created a working draft for collecting digital equity data via student information systems. Once data is collected by a district in its SIS, that data can then be transferred via the Ed-Fi API to MiDataHub where it can be collated and reported. This collection is optional for districts, and districts can also choose whether to share this data for statewide purposes or to use it solely for their own benefit. Because SIS vendors support this type of collection in other states (Indiana, Nebraska, Wisconsin), they are more easily able to support the same work in Michigan. The five main SIS vendors that are API connected in Michigan (Edupoint Synergy, Infinite Campus, MISTAR-Q, PowerSchool, and Skyward) have all committed to deploying the functionality, with most planning to have it in place in January 2021 for testing. **Details of several of the integrations already in place or underway are detailed below.**

EIDEX AND SAS EVAAS

Starting in 2018, MDE recommended school districts use either the Student Growth Percentile (SGP), Value Add Measurement (VAM) or both in determining the impact of instruction using state assessments for teachers of record in fourth through eighth grade. Districts would use only one of the two models for this purpose. For VAM, MDE allocated legislative funds to provide access to this tool. For districts pursuing SGP, Eidex is available (at a cost) for calculating this measurement. Both products developed integrations with MiDataHub to extract the required data elements for each measurement calculation. In addition to streamlining current imports from MiDataHub, both vendors are exploring future integration development efforts with importing Michigan State Assessment (M-STEP) data and other critical assessment data required for the growth models. As of December 2020, current integration totals for SAS EVAAS and Eidex are 309 and 279 respectively. Please note, this does not account for each system integrating to pull multiple years of data (most districts have integrated three years of historical data for us in these systems) from each district's ODS.

> "The SAS EVAAS team cannot say enough good things about the partnership and working relationship that we have developed with the entire MiDataHub team. This year they have assisted us in the process of being able to receive more data than ever before, to include enrollment data and benchmark assessments such as NWEA MAP which has been integral into us being able to provide the best product possible for our customers. The technical ability of the

MiDataHub team and the overall vendor service provided by their support team is unmatched and we could not be more grateful." **— Scott Peoples, Project Manager SAS® EVAAS®**

SWIS

The Schoolwide Information System (SWIS) provides for tracking of student discipline referral information. Used by many Michigan Integrated Behavior and Learning Support (MiBLSI) school districts, integration of SWIS is a highly requested feature for MiDataHub. A comma-separated value (CSV) extract process for MiDataHub was developed to provide student and staff information to SWIS. This has been put into place successfully for ten districts, up from three last year. Many other districts are interested in implementing the work. Further, development was completed on the process of importing referral data from SWIS for use in early warning systems and state reporting. This work was successfully released under Ed-Fi v2.4 but is being revised for version 3.1 and should be released for general use in early 2021.

MI SCHOOL DATA

The MiDataHub team partnered with CEPI, Macomb ISD and Shiawassee RESD to oversee the implementation of the MI School Data Redesign Grant, which launched a redesigned and modernized MI School Data portal this fall. The goal was to provide information in a more intuitive, comprehensive and actionable manner. The work also involved aligning the MI School Data portal and the Michigan Statewide Longitudinal Data System (SLDS) to the same standards used for MiDataHub, allowing those systems to more easily exchange information where beneficial. Although the grant has been completed, work remains to connect Mi School Data to the MiDataHub SSO and to allow Mi School Data to allow districts to view data visualizations from MiDataHub data. It is anticipated that the visualization work will be piloted in 2021, and possibly the SSO connection as well.

M-STEP

The M-STEP assessment is an online test given to students statewide for the first time during the Spring of 2015. This assessment will gauge how well students are mastering the state standards. These standards highlight what students should know and be able to perform in preparation to enter career education training, college and the workplace. These results, when combined with classroom work, report cards, local district assessments and other tools, offer a comprehensive view of student progress and achievement. In October of 2018, highly anticipated functionality was released that provides the delivery of M-STEP results directly from the State of Michigan data systems to the data hub database (ODS) for each configured district. In October 2019, a revised version of the M-STEP Assessment Connector was released that allowed for data from spring 2015 through spring 2019 to flow to district databases. As of December 2020, 318 districts have now opted into having M-STEP results load into their data hub database on a nightly basis. In addition to the M-STEP results in each district's ODS, results are also available in the Ed-Fi and MiDataHub dashboards.

The configuration steps for this integration are minimal and documented on our documentation site located at www.midatahub.org. After less than a minute of configuration, this critical assessment data will be populated for a school district within 20 minutes. Interest from school districts is growing for Student Information System vendors to begin importing this data to allow easy access directly from the Student Information System.

Most importantly, the integration of M-STEP results through MiDataHub provides districts and educators with historical results for new students enrolling from other districts in Michigan. When a new student enrolls in a district, within 24 hours, historical MSTEP assessment results are loaded into the new district's ODS and dashboards, allowing educators to quickly and easily review past performance and better prepare to educate their new student. In the past, access to this data took weeks at a

minimum or often never occurred, requiring months for educators to understand and adjust to the specific needs of the student.

MDE is currently working on the specifications for sending PSAT and SAT assessment results to MiDataHub. This work is expected to be ready for district use in the 2021 calendar year.

ALGEBRA NATION

This integration is currently in place and has the potential to reach 100% of the districts in Michigan. Algebra Nation is a legislatively funded product that assists students with improving their Algebra skills. MDE added requirements to the Algebra Nation contract so that they would partner with MiDataHub to provide districts with this data hub integration as an option to import data to roster their system. That integration includes sending roster data to the product and system usage information to MiDataHub. That will allow the district, MDE, and, eventually, the legislature to have the information to determine if the product is effective in improving student achievement and if future funding would be appropriate. Additionally, MiDataHub provides authentication of students for Algebra Nation. By having Algebra Nation as a service provider tied to the MiDataHub SSO, students can navigate seamlessly to Algebra Nation without having to log in a second time. This work has served as the basis for providing similar authentication, using the **MiLaunchPad**, for additional educational applications going forward.

An example of the Algebra Nation SSO application in our launchpad is displayed below. Upon logging into MiDataHub (with a federated district account, ADFS or Google), a staff member or student will bypass the second login and be directly logged into the MiRead, MiStrategyBank or Algebra Nation site.

NORTHWEST EVALUATION ASSOCIATES (NWEA)

The assessment loading of data from NWEA has been one of MiDataHub's most popular integrations. Based on information from NWEA, this integration will impact up to 62% of districts statewide. As this

assessment is one of the 4 benchmark assessments identified by MDE, NWEA integration is poised to grow greatly during this school year. Recent Return to Learn results show that 445 of the 607 districts responding so far are reporting that they will report NWEA for Return to Learn purposes, far outweighing any assessment. The integration is temporarily disabled due to the v3.1 upgrade but is being tested and will be available by the end of December for the more than 300 districts that have already signed NWEA's permission form to provide MiDataHub with access to the results.

MICHIGAN STUDENT DATA SYSTEM (MSDS) REPORTING

MSDS, one of the most important integrations with CEPI, makes the state reporting process known as the Michigan Student Data System (MSDS), easier and more accurate for districts. The goal of MSDS reporting through MiDataHub is to provide a common tool that all schools can use as an identical process for state reporting. This integration involves several steps. The first step is to ensure that every piece of information in MSDS, the Educational Entity Master (EEM), the Registry of Educational Personnel (REP), and the Financial Information Database (FID) has a way to be exchanged and can be stored in the district database. So far, all 175 MSDS elements are mapped and available to be exchanged. Webinars have been held with SIS vendors to review these fields. During the Summer of 2020, development work was started to bring all the specifications up to date for the 2020-21 school year and to ensure that all processes were functional in Ed-Fi v3.1. Parallel testing work is anticipated to continue for the spring and end of year general collections, with initial availability expected during Fall 2021. Work during this testing phase will include ensuring all security agreements are completed and secured with participating districts, EEM integration is functional, and testing the multiple data points sent from the SIS vendors to MiDataHub. The execution of this work includes monthly meetings with the SIS vendors, monthly stakeholder meetings, posting updates on Basecamp (an internal communication tool), and maintaining communication and testing efforts throughout the testing districts to ensure all elements are mapped, flowing, and configured.

CAREER CRUISING AND XELLO

Career Cruising and Xello are programs that encourage students to conduct personality inventories and provide them with skills matches that assist in career exploration throughout middle and high school. These tools also allow students to search for college information and craft their résumés. In 2019, Career Cruising and Xello both successfully leveraged the MiDataHub SSO and launchpad (see screenshot below), so any districts using those products can have students and staff connect in with their district logins. As of December 2020, 177 districts are using Career Cruising, Xello or both via MiDataHub integration.

> *Speaking about their integration with MiDataHub, "This is easily one of the highest value projects we have in the pipeline right now."* **— Ben Pierce, Director of Data Systems, Xello Inc**.

UIC INTEGRATIONS

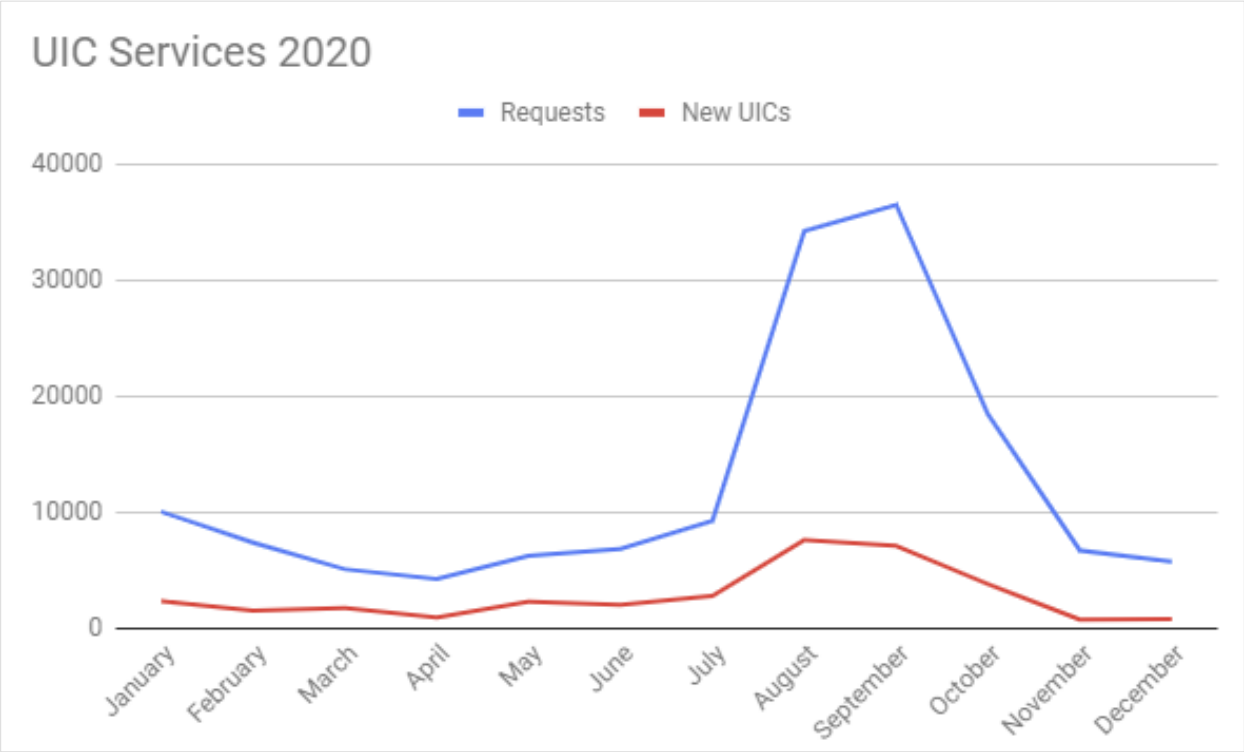
The Unique Identification Code (UIC) is an extremely important state-assigned identifier for students. Historically, the practice of obtaining a UIC for a student included front office building staff logging into the State's MSDS system online, entering some basic information for the student, and waiting for a match or new UIC to be provided, regardless of obtaining an existing or new UIC. That value is usually then pasted back into the SIS. It is also possible to create a file with several students that need UICs, upload to the CEPI site, waiting for CEPI to resolve any records that are problematic, then downloading the result file and importing the records back into the SIS. This process could take from 5-10 minutes per student, and hours to days for bulk requests of multiple students at once. Both options also provide the opportunity for the requester to get an incorrect UIC. The longer the process takes, the longer the district uses the student's data without a valid UIC and increases the likelihood that the student will not publish or roster to critical educational technology systems instructional staff use daily.

The MiDataHub expedites this process by providing a web service for the SIS to call. Once the call is received (student needs a UIC #), 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 reducing the time without a valid UIC down to almost zero 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. This functionality is currently live for 4 of the six integrated SIS in MiDataHub including Infinite Campus, PowerSchool, MISTAR-Q, and Skyward. Edupoint Synergy is planning to develop connectivity in early 2021.

The UIC Services functionality went live in late February 2018, and there were over 40,000 UIC requests and 10,000 new UICs created during the 2018 calendar year. In the 2019 calendar year, that number grew to over 150,000 requests and over 31,000 new UICs for the 373 districts that used the service. For the 2020 school year, we have also seen over 140,000 requests and over 33,000 new UICS for 429 districts that now use the service. Usage on the UIC services is expected to continue to grow moderately as more districts use the services and more vendors support the work. It is also important to note that the MiDataHub UIC Services are extremely helpful to districts when CEPI must take their systems offline for maintenance. During those times, UICs are not available via CEPI's usual search functionality, but they are still available via the MiDataHub UIC process.

The UIC services functionality saves us time but also has reduced the number of problems we were experiencing with data quality.

— Bryan Smith, Ingham ISD, Senior Systems and Development Analyst



EEM INTEGRATIONS

The Educational Entity Master, maintained by CEPI, contains the official district and building information for educational entities across the state. Many of the rules for state reporting rely on EEM information. As of November 2018, CEPI and the MiDataHub team completed this integration. Upon configuration for each district, data initially flows from EEM to a district's data hub database (ODS) upon initial configuration, and any subsequent changes to EEM data will automatically flow to the ODS. 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 but a few examples of the growing list of commonly needed integrations that are in place, and since last year's report the number of integrations has increased by over 26%, growing from 3,431 to 4,337. A more exhaustive list of integrations is included in Appendix B.

LEGISLATIVE GOAL 8C

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

MiDataHub continues to make great strides in promoting a more common, integrated set of systems starting with Student Information Systems (SIS). At the beginning of the project in 2013, six SIS were targeted for integration. Survey results found that 82.8% of districts and 87.1% of students were using the top six identified systems at that time. Current records show that 781 of 887 districts have a SIS that is capable of integration, with 85 verified to be on an unsupported SIS and 21 that are unknown as to their SIS. That gives us a current rate of common, supported SIS at over 88%. This list of systems is shrinking as districts are migrating away from the eSchoolPlus SIS and the next largest SIS, Illuminate. The Eastern Upper Peninsula ISD area has already decided to move largely to Skyward, with one district choosing MISTAR-Q. Most of the eSchoolPlus districts are currently in an RFP process to identify their new SIS, which will be one of the five core systems.

Similar shifts with other school data systems have been observed, with many districts including MiDataHub integrations as a preference or requirement in bid specifications. In addition to individual districts requesting that systems be MiDataHub compliant, legislation, statewide bids and volume contracts are also beginning to require integration. Return to Learn (RTL) legislation requires MDE to choose 4-5 benchmark assessments for districts to report student progress. That selection will not only promote the use of the identified benchmark assessments, but also the integration of those systems so that the data is readily available for RTL reporting as well as other district needs. The SAS EVAAS student growth percentile tool, funded by the School Aid Act and contracted for schools statewide through MDE, relies solely on MiDataHub to provide local district data needed to offer its service. MDE has also included language requiring MiDataHub integration in its contract with Algebra Nation. Conversations are ongoing on leveraging MiDataHub to support other state reporting and statewide initiatives where schools and MDE currently use a variety of tools to complete these tasks. Leveraging MiDataHub for these tasks will, in time, result in one common, reliable, and efficient process statewide and is already lowering the cost and improving the quality and accuracy of data compiled in these and other activities.

In addition to solving existing data challenges, the MiDataHub infrastructure has provided an opportunity to build common solutions that leverage the standards-based ecosystem. The first collaboratively created project was the MiRead system, which assists districts in identifying students struggling to read at grade level and creates individualized reading improvement plans (IRIPs) to meet the requirements of the Read by Grade 3 law. Initially designed as a companion to MiRead, the MiStrategyBank tool was designed to house research and evidence-based strategies for addressing student needs. That tool now is being expanded to include school improvement strategies for use in other tools. Another collaboratively built system is the MiEWIMS tool, which is nearing completion. Like MiRead, it will allow for plans to be created with strategies from MiStrategyBank to target the attendance, behavior and course grade issues that result in an increased likelihood of students dropping out. These common, collaboratively created, and Michigan specific tools will save thousands of hours of work and potentially millions of dollars spent by schools for lesser solutions.

Just as the MiDataHub ecosystem is offering opportunities for Michigan schools to more easily, effectively, and efficiently create solutions, it has created opportunities for the private sector to do the same. A Grand Rapids-based company, Eidex has successfully built engaging and effective tools that provide schools with information to examine and improve school process and budgeting. Eidex is now

using MiDataHub to help schools look closely at local student and teacher data via their new tool, Prism. With nearly 550 Michigan local and charter schools as current customers, Eidex is using MiDataHub to impact and empower educators in 60% of Michigan schools with tools they could not have otherwise created. Other vendors are beginning to follow suit, knowing that MiDataHub integration allows them to deploy their solutions more rapidly to hundreds of districts statewide.

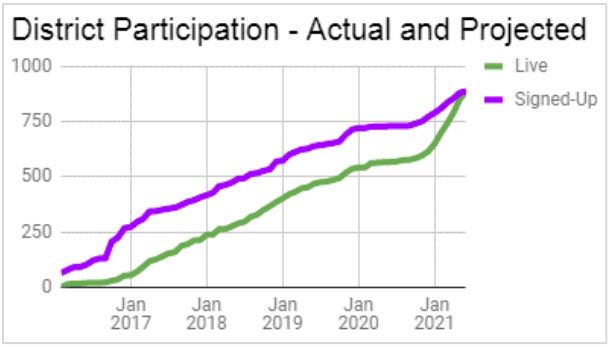
Based, in large part, on the success of MiDataHub in establishing data standards, CEPI has been engaged in the modernization of its internal data systems and structures. This modernization includes efforts to redesign the technical architecture of State data systems. This redesign is focused on adopting and implementing data standards in alignment with those adopted by MiDataHub and implemented in a rapidly growing number of local districts. Aligning State data systems will both simplify integrating State-reporting for local districts and provide opportunities for the State to leverage collaborative work from across the country to improve its ability to process, synthesize, analyze and access educational data.

In the past school year, the MDE and the Michigan Collaboration Hub (MiCH) Development Group have undertaken work to create a new school improvement planning tool called the Michigan Integrated Continuous Improvement Process (MICIP). MICIP will allow for schools to use historical data from MI School Data along with up-to-date information from MiDataHub to identify areas where improvement is needed. Once an area is identified, strategies for improvement can be accessed from the MiStrategyBank tool to create a continuous school improvement plan. Using data from MI School Data and MiDataHub, districts will be able to adjust and modify those plans going forward. The system is currently in pilot with several districts and is scheduled to go live January 4, 2021. This type of collaboration could not have occurred if it weren't for the standards-based environment led by MiDataHub and state systems quickly aligning to them.

In short, MiDataHub is already narrowing the field of educational data systems in use in Michigan. At the same time, MiDataHub is driving up the level of collaboration by schools and state agencies, streamlining business and instructional practices for Michigan schools.

LEGISLATIVE GOAL 8D

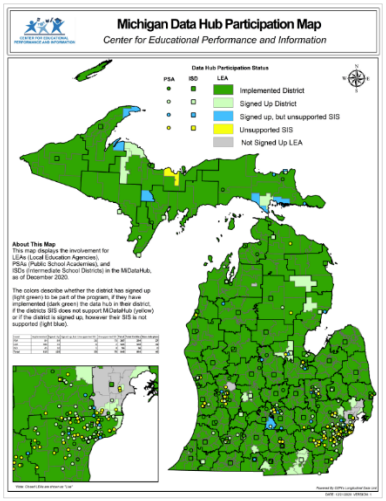
PROMOTING 100% DISTRICT ADOPTION OF THE MICHIGAN DATA HUB NETWORK BY SEPTEMBER 30, 2021.



To date, more than 770 of the 887 districts in Michigan have begun the process of adopting MiDataHub by either signing up for the project or fully connecting (live) at least their 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 2021. As of the time, this was written, the number of live districts was 615, which is 79 districts more than the 536 reported last year. As MiDataHub is a voluntary use system, continued awareness efforts are significant and critical.

The chart above shows the growth in district participation in MiDataHub since districts began connecting in December 2015, along with the estimated growth from January-June 2021. While it is apparent that a little bit of acceleration will be needed over the next six months, the goal of 100% district adoption is within reach.

In previous reports, we have acknowledged that it may not be possible to achieve 100% adoption as a percentage of districts do not have a SIS capable of integration. At present, a little less than 12% of districts fit that description. Most of these districts are charter schools, or very small districts that cannot justify the cost of a SIS. Given the increased importance of 100% adoption so that districts can meet the Return to Learn reporting needs, the MiDataHub Advisory has approved the development of an MSDS Import Tool. This tool will allow for any district to import data from the same MSDS General Collection file that they use for state reporting and pupil accounting purposes. While this import will not fully populate the system to the degree that a SIS integration would, it will provide enough data for a district to be "live" and most importantly for a district to import benchmark assessment data. Armed with this tool, we expect to achieve 100% adoption this Fall, or to be very close to it. That is a remarkable adoption rate for a system that is still considered voluntary.



The table below shows a breakdown of the progress by district type - intermediate school district (ISD), local education agency (LEA) or public-school academy (PSA). The greatest interest has been at the ISD level, as 100% are interested, with nearly 77% of the ISDs and 78% of the ISD students already live. The 537 LEAs have had the greatest rate of live adoption, with nearly 89% of districts and 85% of students live on the data hubs and over 97% that have expressed interest. We are continuing to expand our outreach to PSAs, as just under 64% of them have expressed interest, and only about 27% of the PSAs and their students are currently live. We have reached out to the Michigan Council of Charter School Authorizers (MCCSA) and Center for Charter Schools at CMU to discuss the benefits for PSAs and to enlist their assistance on communicating with the charter school community. The emergence of vendor partners such as Eidex is enhancing our ability to engage with the charter school community as well. Eidex expects and is encouraging it's 200 charter school clients to go live in the coming year.

Number of Entities	Type	Interested		Live Districts		Live Students		Total Students
		#	%	#	%	#	%	
56	ISD	56	100%	45	80%	38,333	80%	46,549
537	LEA	523	97%	486	91%	1,136,454	85%	1,331,428
294	PSA	193	66%	84	29%	38,826	28%	141,021
887	**Total**	**772**	**87%**	**615**	**69%**	**1,213,613**	**80%**	**1,518,998**

To date, 100% of the 731 districts that have signed agreements have maintained those agreements. Many of the connected districts are partnering on pilot connections, including early literacy assessments

AimsWeb Plus, Acadience Reading, and NWEA, as well as resources such as MiLearn, UIC automation, Snack-Pack and state reporting. This level of engagement is encouraging for the long-range adoption and use of the system.

The map to the right indicates current registrations and implementations. As is clear in the map, partnerships with Intermediate School Districts are often the critical lynchpin in the connecting process. Targeted efforts are underway to increase adoption in underrepresented areas of the state. While COVID has limited the ability to host onsite professional development sessions in regions where onboarding is needed, these efforts are continuing virtually and are helping to fill in substantial sections of the map. Similar efforts will be scheduled virtually in 2021 to assist districts with onboarding as well as meeting the RTL legislation requirements.

EDUPATHS

In 2019-20 the MiDataHub team worked closely with the team at EduPaths to create a set of modular trainings that when completed, were a resource for users of MiDataHub throughout the state of Michigan. Topics in the training modules were navigation, managing users/authorizations, creating/ and interpreting reports, creating and managing integrations with our partnering vendors, creating and using dashboards, and other functionality MiDataHub offers a district. The MiDataHub team is focused on providing high-level on-demand training utilizing EduPaths which is a tool that educational staff is currently using as a FREE professional development portal and is available to ALL Michigan Educators and educational staff. These MiDataHub courses are available online, free, and are completely self-paced and intended to help educators personalize their learning plans anytime and anywhere. In the future there is strong interest and potential to build an SSO integration with EduPaths which would allow educators easier access to the tool by allowing them to login with their district credentials.

MIDATAHUB HELPDESK

Since the fall of 2017, MiDataHub has been using a web helpdesk solution to provide streamlined support to our growing number of participating districts and partnering vendors. This solution has proven valuable to not only track the progression and escalation of tickets throughout the system of support (graph below), but also continue to assist with isolating global problems impacting multiple users, and isolate where more support and resources needing to be developed for the field.

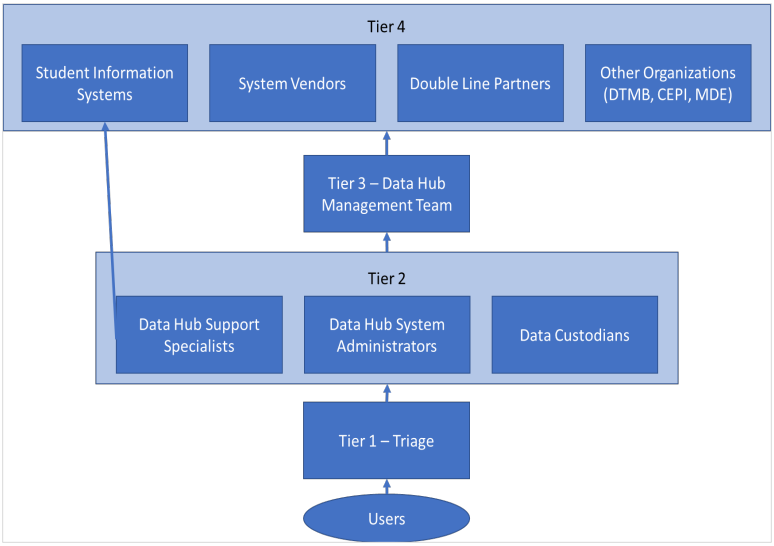
The chart below depicts the Tiered System of Support for MiDataHub:

Tier 1 support staff triages the ticket and assigns it to the appropriate staff to resolve or will resolve the ticket at tier 1.

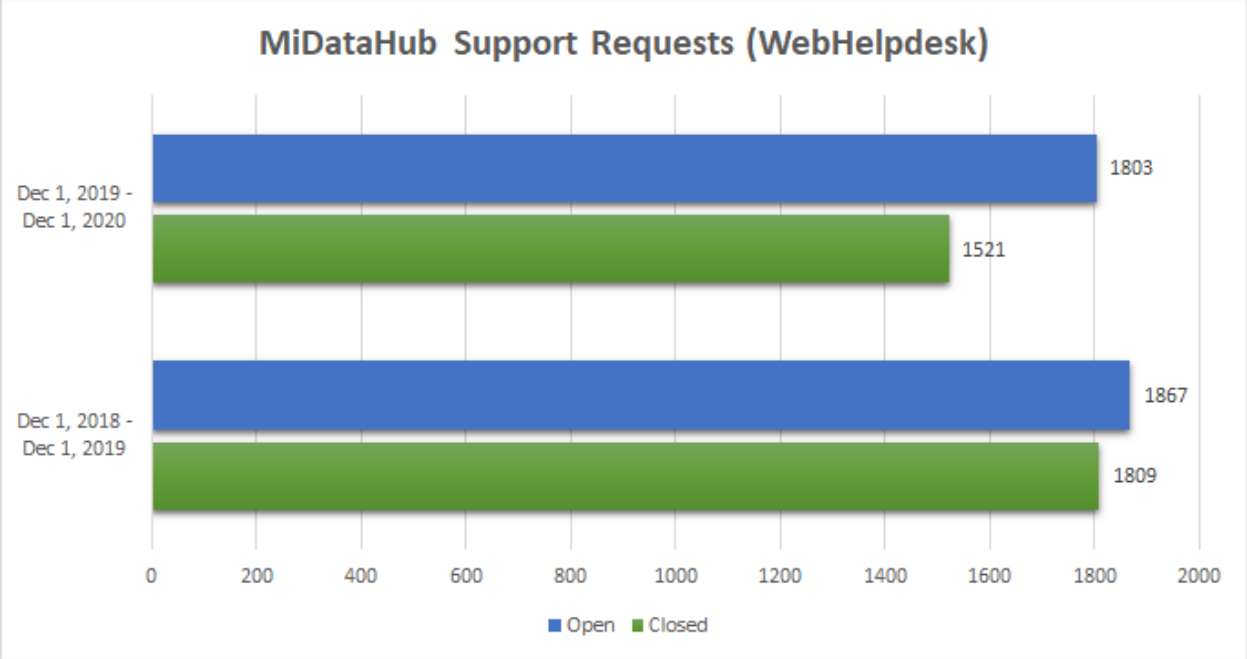
Tier 2 consists of Data Hub Support Specialists, Data Hub System Administrators, and Data Custodians, all of which are staff designated throughout the state, mainly at a county level (ISD, RESA, ESA, etc.)

Tier 3 includes the Data Hub Management Team (Infrastructure Manager, Director, Support Manager, and Actionable Data Manager).

Tier 4 includes others such as SIS developers, Vendors, Double Line Partners, MDE, CEPI, and others.



Ticket statistics presented below, depict the total ticket counts of open and closed tickets from December 2019 – December 2020. Although the number of tickets opened across the two years is consistent, there are more tickets that have been left open during the 2019-20 year as a portion of tickets submitted from users of MiDataHub were development requests and enhancements from the field. The numbers below show a consistent pattern of usage of MiDataHub, as well as the reliance on a ticket system to improve the user experience in MiDataHub.



PROFESSIONAL DEVELOPMENT

Due to the COVID pandemic, professional development (PD) has looked very different this year. Things started off normally for January, February and the beginning of March, with onsite presentations at ISDs and conference presentations. During COVID, much of the PD took the form of individual and small

group working sessions, webinars and presentations at virtual conferences. Through all these methods, we estimate that we may have reached more users with PD than we have in prior years due to the reduced travel time afforded by the pandemic.

> *"Through our use of the data hubs, we see an improvement in data quality. Instead of finding and addressing data quality during state reporting timelines, we are seeing them earlier – during the enrollment and registration process. This gives us cleaner data. We are excited to take advantage of the UIC integration and MiLearn, both exclusively available through the data hubs. We no longer upload files for UIC matching... Not only does this integration reduce my work as the Pupil Accountant and State Reporting MISTAR System Administrator, but our building secretaries have the UIC immediately and there's no waiting or follow up to complete student registration. The integration with MiLearn gives staff, parents and students in our district instant access to student state testing results, even if the students were not in our district during testing."* **— Donna Reuter, Student Data Supervisor, Farmington Public Schools**

MIDATAHUB COLLABORATIVE SUPPORT

MiDataHub also works collaboratively with ISDs, LEA's, and other organizations to establish regional support for schools providing instructional services to students. These staff, referred to as Data Hub Support Specialists (DHSS), offer knowledge about the educational technology systems local schools use and know their data policies and practices. Collaboration within this support network facilitates district on-boarding and use of the many benefits MiDataHub provides. A portion of the current MiDataHub budget is allocated for reimbursement back to the ISD, LEA, and other organization for the districts a DHSS has onboarded, testing/piloting of new third-party integrations (this includes the State of Michigan and CEPI), assisting other districts throughout the state that might not have accessibility to a DHSS, and the piloting of current and future initiatives. This group provides additional support beyond the Data Hub team by expanding the capacity of supporting MiDataHub and its functionality to over 50 people statewide.

To support this statewide staffing model, the Data Hub Leadership team provides monthly workgroup meetings facilitated by the Data Integration Support Manager. The purpose of these meetings with the Data Hub Support Specialist network is to encourage collaboration and sharing of best practices. During the meetings, topics of discussion include:

- New/Upcoming functionality in the MiDataHub
- New/Upcoming integration opportunities
- Solutions to common onboarding challenges
- Focus on continued district adoption of the tools available for school districts when integrated
- Sharing of state functionality updates from state partners including the MDE, and CEPI

Participation on these meetings typically include the Operations Workgroup including DHSSs, MDE staff, CEPI, Double Line Partners, MiDataHub leadership, and other guest speakers as needed.

In addition to the monthly Operations Workgroup meetings, there are monthly collaborative meetings scheduled with each Student Information System where we encourage districts to participate. These meetings are specific to each Student Information and each have a varying level of sharing between MiDataHub, Student Information System developers, and the districts participating on the call. The sole purpose these meetings is to provide an opportunity for SIS vendors to address any questions from the

field and provide updates on upcoming functionality, including bug fixes. A schedule of these meetings can be found on our website.

A current listing of these specialists is maintained on the MiDataHub website and is also provided in Appendix E. Please note that some support consortiums have chosen to provide their helpdesk contact information instead of specific identifying criteria for individuals.

LEGISLATIVE GOAL 8E

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

Local control, data security, and data privacy are of primary concern and utmost importance to MiDataHub. The primary place that security is managed is through the MiDataHub cockpit application. The cockpit is a web-based utility that puts districts firmly in control of their data and provides an audit log tracking all manual changes. Alert functionality has also been added to allow districts to receive email alerts when users or integration settings are changed.

Initially, a district's data integration capability is disabled until their superintendent or his/her 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. 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 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 the consent of the district. 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, was implemented in the Fall of 2020.

Once a data hosting agreement has been signed, a district can then create and manage a variety of inbound, outbound, and API integrations. Those integrations provide the capability for the exchange of information. For a vendor to utilize that capability, the district must provide the vendor with the appropriate secure connection information. A new feature planned for 2021 will allow vendors to sign into a secure portal in order to see the connection information that districts provide them, rather than having to receive that in a less secure manner.

In addition to the DHA, MiDataHub allows for other agreements to be e-signed and track through the MiDataHub Portal. The first additional agreement tracked in MiDataHub was for the MiLearn project sponsored through MDE. In 2019, a second agreement was added for districts planning to use the MiRead application. This year, several agreements were added, including agreements for the Read by Grade 3 research project, MiMTSS application and MICIP application. These agreements are essential to ensuring districts that their data will be handled securely, and that privacy of data will always be maintained. Further details on these agreements can be found on the midatahub.org website.

All integrations are protected by industry-standard encryption. All web traffic is encrypted with secure socket layer (SSL) encryption, which includes all API integrations. 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 an infrastructure layer, all storage area network (SAN) drives are encrypted, so that physical theft of a drive will not allow for retrieval of data. Within the SQL database used by the system, all databases are encrypted so that a database backup cannot be restored without the proper keys.

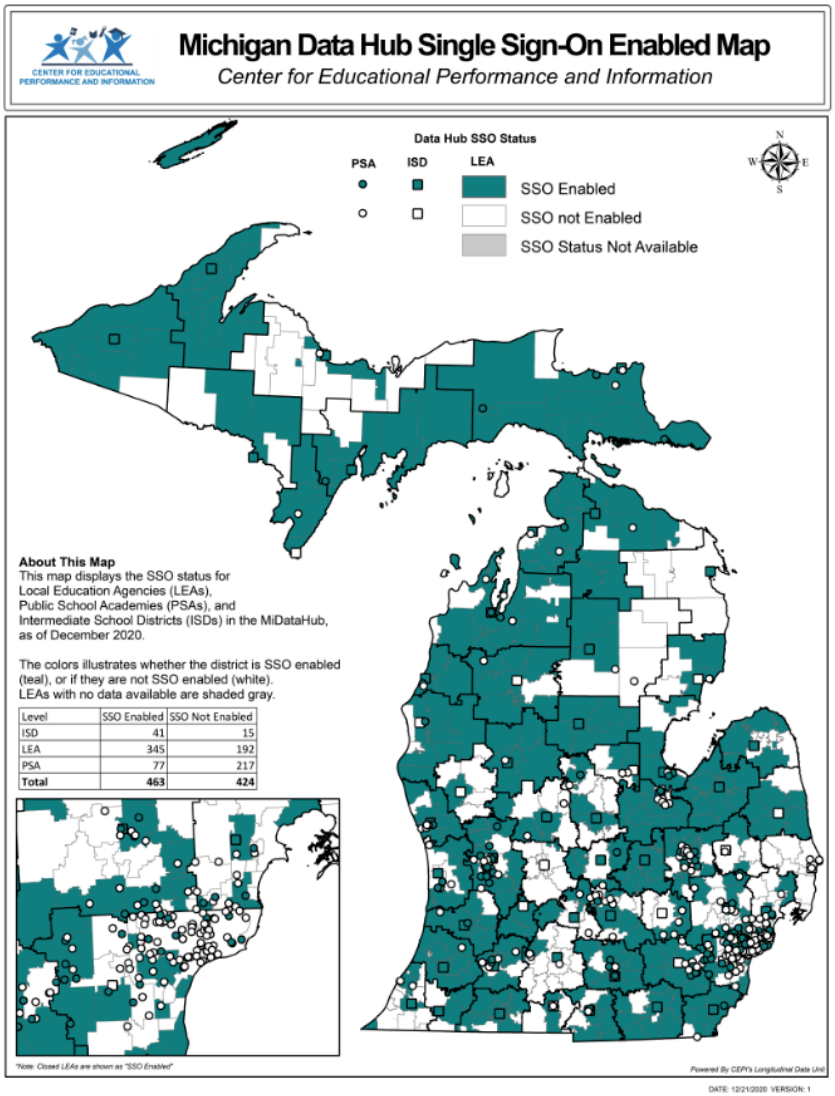
The Department of Technology, Management and Budget (DTMB) utilizes tools to scan State of Michigan infrastructure to ensure that no vulnerabilities exist. A scan of the data hub infrastructure led to a few minor recommendations that have since been addressed but found no vulnerabilities in the network infrastructure. Additionally, MiDataHub contracted with VDA Labs to do penetration testing. That testing found that "MiDataHub had made solid strides in certain areas" and also that "there are other areas where MiDataHub needs to tighten up and continue to invest." MiDataHub staff and its developers have been working to implement recommendations provided by VDA Labs to further ensure security and privacy. Continued scanning and audits in the future will continue to give districts confidence that their data is well protected.

We also take steps to educate all staff as well as contracted Data Hub Support Specialists (DHSSs) about FERPA regulations on the handling of data. Most of the project staff are employed by Kalamazoo RESA, which requires annual completion of SafeSchools training modules, including FERPA. All DHSSs and other contracted staff are required to complete training through the Privacy Technical Assistance Center (PTAC). PTAC provides a federally approved training course, which provides certificates of completion. These certificates are held on file for reference as needed.

In addition to these overt efforts at security, the workings of many of the technical solutions provided by MiDataHub eliminate the potential for human error in many of the tasks. The ability to get UICs directly through MiDataHub eliminates the need to create and store data files with UIC information, preventing unauthorized access to that information. Similarly, the exchange of data files via API and secure file transfer protocol (SFTP) eliminates employees putting those files on laptops and other storage devices where the files may be accessed by others. This secure functionality protects highly sensitive data sources such as free and reduced lunch, assessment and special education data.

Although we have taken great lengths to protect student data from inappropriate access, we also have made great strides in providing the right data to the right people. A new initiative being developed with CEPI, the Student Snack-pack, is now delivering valuable student information to district staff for new enrollees. Armed with this information, which is provided securely, districts will be better able to address the educational needs of each student.

A final aspect of providing security and privacy of data is to have a solid authentication system that controls the login of both staff and students. In prior years, the primary way that districts accessed MiDataHub was through a MiDataHub login. This login required districts to maintain a user Id (email address) and password on the MiDataHub side, separate from logins used elsewhere in each district. As the need to log into other systems like MiRead, MICIP and vendor systems has grown, so has the desire to allow districts to log in with their own Google, Microsoft Active Directory or Microsoft Azure Active Directory accounts. That process, called federation, allows a district to connect the type of login that they use for other purposes in district. It also has opened the door to allowing students to log into software that they use. While this federation process started in prior years, it really began to expand rapidly in 2020. At present, more than 500 districts are federated, meaning that more than half the districts in the state are connected. The map below shows the MiDataHub Single Sign-On (SSO) federated districts across the state.



LEGISLATIVE GOAL 8F

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

Powered By MiDataHub 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. As such, the work of actionable data focuses on supporting and promoting the use and development of instructional applications that are "Powered by MiDataHub."

An Actionable Data Advisory (Appendix G - Membership) was assembled in 2017 with curriculum and instruction, data, and educational technology leaders from across the State. The advisory, along with MiDataHub Actionable Data Manager Tom Johnson, is leading work across a wide range of statewide

efforts to leverage MiDataHub to support improvement efforts in buildings, classrooms, and individual students.

This group has set and begun focused work on four primary statewide priorities:

1. The statewide implementation of an online tool for the creation, management and administration of Individualized Reading Intervention Plans **(MiRead)**.
2. The integration of **MiStrategyBank** to support best-practice student, parent, instructional, and improvement strategies in tools including but not limited to, MiRead, MICIP, and MiEWIMS.
3. The development and integration of the web-based-platform to support Michigan Integrated Continuous Improvement Process **(MICIP)**. Over 400 districts have already signed up to use this new system, which goes live on January 4. 100% adoption is expected by the Fall of 2021.
4. The design and development, in partnership with and funded by Michigan's MTSS Technical Assistance Team (formerly MIBLSI) of a web-based platform **(MIEWIMS).** MiEWIMS, modeled after MiRead, is a platform to support the efforts of school and district teams in decreasing dropout rates while improving on-time graduation of students at risk for dropping out of school. Based on national research and MDE's EWIMS (Early Warning Intervention Monitoring System) process, MiEWIMS will blend best practices from state and national partners to support district efforts and will rely solely on MiDataHub for data in the areas of Attendance, Behavior, and Grades which are proven indicators of risk and student success.

Based on the common standards and transmission processes promoted by MiDataHub, the applications, systems, and processes that are *Powered by MiDataHub* rely on the Hubs to populate the vast majority of data used by these systems.

Examples of the actionable data initiatives that are Powered by MiDataHub include:

MICIP Platform: The most significant new effort in actionable data over the past year is the partnership with MDE, MAISA, and a range of other organizations and private sector vendors in the development of the online platform for Michigan's Continuous Improvement Process. Used by all districts in Michigan to assess needs, develop implement, monitor, and evaluate strategic improvement plans, MICIP will truly impact every student, family, educator and community in Michigan.

The MICIP Platform relies on MiDataHub and its associated systems for local district and building data, user accounts, improvement strategies, reports, and visualizations. The MICIP Platform is truly Powered-By and only possible because of MiDataHub:

MiRead is now in production in nearly 100 districts (map below right). While implementation of version 1.0 of this new system takes some effort, mostly in reviewing and addressing existing data quality issues that exist in local systems, once implemented, teacher reactions can be best demonstrated from a quote from a local literacy coach, Kim from Birch Run, *"My teachers are LOVING*

the system."

MiStrategyBank is powering MiRead with nearly 1000 (250 a year ago) unique strategies assigned to thousands of students based on their individual needs to support literacy. National groups have begun the work of curating district improvement strategies. MDE and content area leaders from across the State have also worked on adding systems level strategies to support school and district improvement level. With over 250 systems-level strategies, and growing, MiStrategyBank is prepared to support the statewide launch of the MICIP platform in January.

Early Childhood Integrations include work with John's Hopkins on developing initial integrations with Michigan's Kindergarten Readiness Assessment (KRA). Having 100% adoption of KRA has been put on hold by the COVID-19 pandemic but work continues. KRA launched its initial integrations in the summer of 2019 and has improved the integration to ensure accurate rosters are imported. MiDataHub is also partnering with CEPI's redesign effort and assisting in the development of an early childhood reporting system, which will integrate Pre-K data systems such as ChildPlus, the student information system used by over 75% of HeadStart programs.

MI School Data Redesign – Over the past two years MiDataHub partnered with MiSchoolData on its redesign effort. With funding provided by CEPI, and in partnership with the Macomb and Shiawassee ISDs. The MiSchoolData Redesigned site went live in the Fall of 2020. As we move into 2021, the partnership has expanded to one that leverages shared human and technical resources. Working to use the same tools for data analytics and visualization, MiDataHub and MiSchoolData are sharing licensing, installation, and designs for data analytics and visualizations. In the coming months new dashboards for both systems will be published using MicroSoft's Power BI (Business Intellegence) system. By leveraging this shared resource and designing it to be shared on the front end, we will also be able to integrate reports, charts, and graphs from both systems directly in other applications. This winter these initial dashboards will appear and be directly accessible in both MICIP and MiEWIMS.

Common Reports – 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 so that important reporting capabilities can be put in the hands of districts quickly. Also, a custom export tool allows districts to query their data in any way they would like, allowing for near-instant access to their information.

MiEWIMS – As described in the executive summary, MiEWIMS is being built to support district, school, and educator efforts to help individual and groups of students at risk for dropping out. Rooted deeply in decades of research, MiEWIMS will enhance efforts at the local level. Much like MICIP, MiEWIMS is Powered by MiDataHub, MiLaunchPad, MiDataExchange, and MiStrategyBank. Being Powered-by these systems means that the system relies on the other systems to operate. In the case of MiEWIMS this means:

- Powered-By MiDataHub: All data is provided by MiDataHub, this includes Students, Staff, Schedules, Attendance, Behavior, and Grade data.
- Powered-By MiDataExchange: Allows for student data to follow students as they move from district to district, allowing data to follow students ensures that educators are alerted when a student enrolls in their district who is already at risk and has recently moved, adding to the likelihood of dropping out, and allowing them to act quickly to provide supports to these students.
- Powered-By MiLaunchPad: If you have more usernames and passwords than you can remember, this means a lot to you. MiLaunchPad allows users to login using their district email. This means no new usernames, no new passwords, no password resets, etc. Users simply access the system without logging in if they are already logged into their email. This reduces the support cost of the system and more importantly makes access seamless for users.
- Powered-By MiStrategyBank: Reduces duplication of strategy research, identification, and alignment to district needs. It also offers Michigan schools a common place to both share and consolidate knowledge about effectiveness, best practice implementation steps, and outcomes. MiStrategyBank provides strategies that can be searched for based on student needs and included in plans to support student success. While encouraging collaboration and consideration of proven practices, it also empowers districts to be independent as each district can enhance their own 'bank' of strategies by adding their own local strategies to those visible statewide for use just in their district.

NWEA, an assessment system in use by 62% of Michigan school Districts, has integrated with MiDataHub and is currently sending assessment results into the system. These results will be populating newly developed Power-BI dashboards that will populate MiDataHub Dashboards and MICIP Needs Assessment modules.

The **Michigan Linked Educational Assessment Reporting Network (MiLearn)** is an MDE service that delivers state assessment results directly to students, parents, and educators through the district's Student Information System (SIS). MiLearn is updated daily using an automated process to ingest data from MiDataHub. MiLearn is an MDE initiative that has grown to include 161 districts, serving approximately 26% of the student population across the state, and across five SIS tools. MiLearn is hosted by MDE and contains an array of reports on state assessments including M-STEP, MI-Access, WIDA, SAT, and PSAT. The reports are available immediately upon MDE's public release of assessment results.

Students and parents can access up to three years of reports using their local student information system parent portal login, which eliminates the need for an additional login account. Teachers and administrators also access MiLearn through the SIS and are given access to students in their classroom or building(s), respectively directly from tools available in the MiDataHub Cockpit.

I just wanted to reach out and tell you how amazing MiLearn is. Our connection finally works, and I was able to look up a student's ACCESS scores today. This is going to save hours of time.

— Christin Silagy, Ed. S, Director of ELD, Federal Grants and State Assessments, Troy School District

Portable Student Records: Historically, schools have faced a major problem in terms of their ability to identify critical services that students are entitled to upon their enrollment. Districts typically had to wait 30-60 days on average to receive this information from the previous district or had to follow a burdensome process for each student in MSDS to retrieve the data. In November of 2018, CEPI convened a workgroup to design a concept called Portable Student Records to address this issue. This concept is a three-phase collaboration around making historical student records available to districts as new students are enrolled, similar to the way the UIC lookup process works. Details of the three phases are below:

Phase I: Snack-Pack – Implementing Fall 19/Winter 20

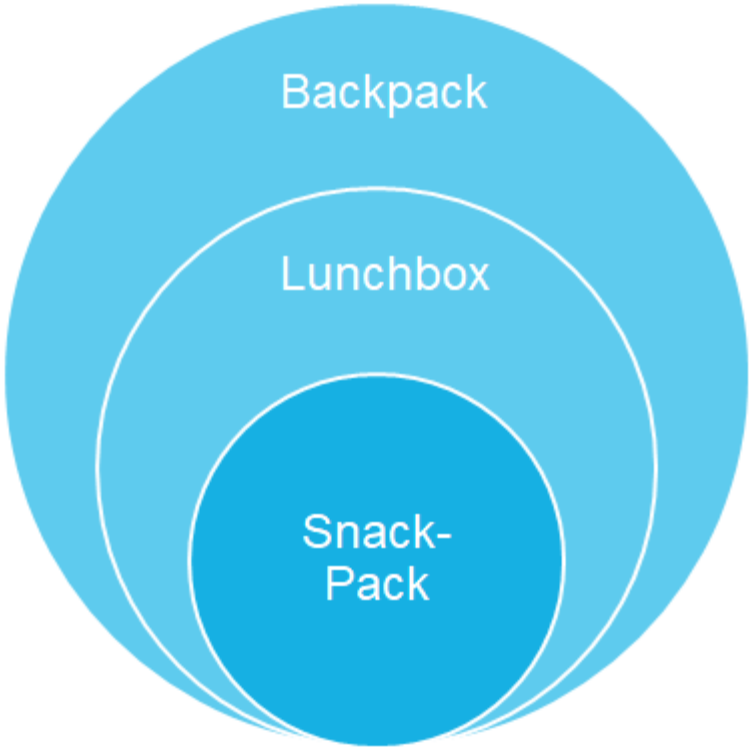
- Contains critical information necessary at the time of student enrollment
- Services that must legally start within a specific timeframe (e.g., 30 days for Special Education IEPs)

Phase II: Lunchbox

- Information not necessary at the time of enrollment, but still desired and helpful
- Historical student records from CEPI's longitudinal data system

Phase III: Backpack (Statewide committee formed in the Fall of 2020, design is underway)

- Electronic CA-60 (official educational record)
- Contains some data not collected by CEPI/MDE



The first phase of the Portable Records project, the Snack-Pack, was released in November 2019. This new functionality allows districts to receive 18 critical data fields (below) directly from their student information system. The only requirement is that the student is entered into the SIS and the unique identification code is populated, which is another automated process further described in this report.

Field Name
Days Attended
Total Possible Attendance
District Exit Status
Economically Disadvantaged
English Learner Eligible
EL Instructional Program
Foster Care Eligible
Grade
Homeless
Migrant Eligible
Previous School District
Program Participations (12 programs)
Special Education Participant - Most recent IEP/Plan Date
Special Education Participant - Primary Disability
Special Education Participant - Program Service Code
Special Education Participant - Program Service Name
Student Record as of Date
Previous School participated in CEP

Once retrieved, Snack-Pack data is displayed to district personnel in a variety of ways, including:

- On-screen notification in the student information system
- SIS reports
- Email and text message alerts

(Example below: a new student was eligible for Special Education in their previous district)

MIDATAHub - Snackpack

Snackpack Updated: Oct 7 2019 10:58AM

Student Snackpack

Attribute	Value
Last MSDS As Of Date	10/03/2018
UIC	[redacted]
Previous LEA	Detroit Public Schools Comm Dist (82015)
Grade Level	Eleventh Grade (11)
Entry Reason	Expected to continue in the same school district
Exit Reason	
Total Days Attended/Possible	0/22
Previous School In CEP	true
Economically Disadvantaged	true
SpecEd Plan Date	02/08/2018
SpecEd Primary Disability	Specific Learning Disability
SpecEd Program Svc	Elementary or Secondary-Level Resource Program (19)
LEP Instructional Program	
LEP Eligible	false
Program Participation	Section 31a At Risk
Foster Care	false
Homeless	false
Migrant	false

In its short history, the Snack-pack service has achieved some impressive statistics. In its first year (2019), a total of 74 districts opted into using the service. That number has since grown to over 438 districts. In the last two weeks alone, 96 districts accessed the service for a total of 1,700 requests.

> The new Snack-pack feature has already proven to be a tremendous asset to our district. The ability to obtain immediate information on newly enrolled students has really improved the district's ability to provide timely service and accommodations to these students. Before the Snack-pack, we would have to wait for the previous school/district to send pertinent student status information related to special education, English language learning, homelessness, economic status, etc., which often caused a delay or gap in needed programs and services. With the Snack-pack, we are now able to get a glimpse into the student profile as soon as we enroll a new student, eliminating the need to submit an SRM right away or wait until the next certified collection to obtain this information. If this is only the beginning of the Snack-pack project, I cannot wait to see how much more robust it will become!
>
> **— Sarah Mohler, Madison District Public Schools - Pupil Accounting Manager**

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 8G

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 is in place for the MiDataHub. The current governance model is based on the type of funding that has been provided, which so far has been state grant funding. The current Section 22m funding is provided through CEPI, which has sub-granted to Kalamazoo RESA as a fiscal agent. Kalamazoo RESA employs the MiDataHub staff including a Director, Actionable Data Manager, Operations Manager, Relations Manager and Support Manager, who are responsible for carrying out the various aspects of MiDataHub work.

A leadership team comprised of the Executive Director of CEPI, the CEPI Director of Integration and Support, the Director of the MDE Office of P-20 Data and Information Management, the MDE Director of 21st Century Learning, MIDataHub Director and MiDataHub Actionable Data Manager is in place to ensure that MiDataHub is meeting the legislative and grant requirements.

Primary coordination and direction for the MiDataHub is provided by two advisory committees that are comprised of ISD representatives from MiDataHub regions. While these committees are advisory, they represent the voice of the districts. It is the advisory committees that identify priorities as facilitated and recommended by the Director and Actionable Data Manager.

Much of the work of MiDataHub is distributed to ISDs throughout the state. Oakland Schools and Kalamazoo RESA are serving as data hub hosts and receive funding to offset both the use of their infrastructure as well as their staff time to serve as data hub system administrators. A wider variety of ISD staff serves as data hub support specialists (DHSS), with 50 DHSSs serving from more than 30 ISDs statewide.

Legal agreements have been developed to handle various aspects of MiDataHub operations. A contract for hosting services is in place between Kalamazoo RESA as a fiscal agent and the other four data hub hosts. A new revised data hosting agreement (DHA) between Kalamazoo RESA and all districts joining MiDataHub is in place. The DHA ensures the protection of district data and identifies the terms and conditions that govern district usage.

As MiDataHub looks to the future, strategic partnerships are playing a critical role. Agreements with the Michigan Collaboration Hub (MiCH) at MAISA provide for extended services and logistical support. Like many other statewide initiatives, MiDataHub looks to MiCH for support, guidance, and access to educational groups and associations. These relationships are paying significant dividends and will, in time, provide pathways to funding to support the long-term operation of MiDataHub. One example is MiRead. Developed in partnership with MiDataHub, MiCH, and the Ottawa ISD, MiRead is in full production this school year and is expected to be adopted by many, if not all districts in Michigan in the future.

In addition to the revenue sharing and co-development of applications powered by MiDataHub, MiCH may offer the future governance model for MiDataHub. Currently, MiCH, using its statewide advisory and steering structure, is overseeing many ongoing initiatives, including, among others, the State Education Network, the EduPaths professional learning system, and MiOpenBooks K12 social studies

online textbooks. The current MiDataHub governance model mirrors that of MiCH, joining the MiCH structure directly in the future is an option that is under consideration and which could offer MiDataHub scaled support systems, pooled purchasing, staffing options, and potentially decreased liability coverage.

Most recently, MiDataHub has implemented a decision-making process based on the research-based Hexagon tool. This is the same process in use by schools across Michigan who are engaged in MiBLISI and/or MiMTSS processes. This tool provides a framework for assessing the six components of implementation demonstrated to be critical to support change in systems. With new initiatives seeking to leverage and integrate with MiDataHub nearly daily over the past year, using the Hexagon tool is providing MiDataHub, its staff, and its advisories with clear processes to prioritize efforts and maximize the use of the MiDataHub ecosystem to support teaching and learning in Michigan.

The work to identify and implement ideal governance and sustainability options is ongoing during monthly advisory and collaboration meetings with MiDataHub Advisories, in partnership with CEPI and MDE.

LEGISLATIVE GOAL 8H

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 MiDataHub infrastructure is that it has changed the way we approach new data initiatives. Not only does MiDataHub provide a standards-based framework that can be leveraged for new initiatives, but it also extends the ability for collaboration from districts to ISDs to State of Michigan entities like CEPI, DTMB and MDE.

The governance structure serves as a mechanism for the identification and evaluation 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, the data needs can be discussed, and the hexagon tool described in the previous section can be used to identify if the initiative should move forward as a MiDataHub powered solution.

In addition to evaluating future data initiatives described above, CEPI has also been changing internal processes to evaluate requests received from internal and external stakeholders. Some of these requests are to streamline compliance reporting or data quality processes, and instead of simply adding more reports to existing systems, they are now evaluating whether the requested information would better serve students in a timelier manner if collaboration with the hubs can solve the issues. 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 due to data inaccuracies. These requests for improving data quality can now be considered opportunities to instead provide improved student supports or district efficiencies via the data hubs.

The Michigan Department of Education is currently working to replace and consolidate numerous data systems that support school improvement processes. These include comprehensive needs assessment, online surveys, school improvement plan creation, and consolidated (Federal Title I, II, IV, V) grant application and management systems. The replacement of all these tools, currently used separately, with one system called MICIP (Michigan's Continuous Improvement Process system), is an effort to dramatically streamline these required data gathering, reporting, planning, and grant application processes. The time savings for schools and the department will be substantial once this newly envisioned system is in place. However, the greatest value will be the integration of these currently disconnected processes. By combining these into one seamless system/process, schools will be able to evaluate their data easily, better identify effective goals, and integrate those goals across their systems, budgets, and processes related to the classroom and student, creating truly aligned and relevant efforts for improved student achievement.

MDE is working with MiDataHub staff and advisories as it designs this new consolidated solution. Leveraging MiDataHub in the MICIP process and solution will ensure that Michigan schools can more easily implement the solution with their local data embedded in the process. Longer-term, the extension of MiDataHub, through tools such as MiStrategyBank, into this work will support efforts of schools to identify and move to the most effective research-based practices. These practices are based on their local data and will ultimately improve student achievement. In short, MiDataHub will allow schools to bring together 'big data' from state and national systems, with their 'small' local data to better understand student needs and the most effective solutions for each district, school, teacher, and student because of the integration of MiDataHub.

This year has been the first year that MiDataHub has been called upon as a resource for research information. As mentioned earlier, 306 districts have electronically signed an agreement to allow MiDataHub to share student assessment and other related data with researchers at MSU and the University of Michigan through a collaboration called the Educational Policy Innovation Collaborative (EPIC). EPIC received an IES grant to study the effects of the Read by Grade 3 law, and the availability of data and ease of receiving permission from districts, is enabling EPIC to be very effective in its work.

> "It has been almost 10 years since the Education Policy Initiative (EPI) tackled a research study of this scale, using data held by local education agencies alone. *That influential study of charter schools*, required an entire team of researchers to simply access the necessary data. The existence of the Michigan Data Hub has catapulted researchers and LEAs forward, giving them the ability to answer tough questions with a level of efficiency not possible in the past. Even more, it provides a space for LEAs to come together and have direct access to new information about what is working in classrooms, schools, and districts in their home state." - Nicole Wagner, Associate Director, Education Policy Initiative

The COVID pandemic has led to two initiatives to provide information to assist with student learning. The first is the benchmark assessment reporting requirement in the Return to Learn legislation. At a minimum, districts using NWEA MAP, Curriculum Associates iReady, Renaissance Star and DRC Smarter

Balanced Interim Assessments will be reporting that data via MiDataHub. That information will provide valuable guidance on the effects of COVID on student learning. In addition, MiDataHub is already well positioned to assist with a Digital Equity Data Collection, where districts will be able to gather data on student devices and internet access. Once collected, the data will be applicable both at the local level, and if transmitted to MiDataHub, collated statewide to identify gaps in equitable access. This type of initiative could not have occurred as quickly as it is unfolding without MiDataHub's existence.

If nothing else the pandemic of 2020 provided a reminder of how reliant individual education entities have become on their data being available, integrated and actionable. Schools and educational organizations have needed to make quick pivots to allow information to be accessed and used in new contexts. The need for this type of integrated and actionable data was also very evident at the statewide level. The Michigan Data Hub should be looked to as an asset, resource and part of the ultimate future solution for many of these current and future challenges.

Moving forward, the Michigan Data Hub can be a resource that helps scale activity in a systematic and systemic way. During this past year, the Michigan Data Hub has been a part of conversations that included understanding our current statewide data around remote learning, planning for instruction and student support during the pandemic, and understanding the achievement impact of students being out of school. In each of the initiatives an integrated system could have given us actionable data around student devices and connectivity, provided a mechanism for integrating data for Continuity of Learning Plans, supplied modality data for Pandemic EBT programs and been available for collecting Return to Learn assessment data. All these examples represent a space where the data initiative would have been enhanced by use of the standardized environment of the MiDataHub Network and should give us clear indication of future application.

"The needs that were exposed during the pandemic for which we did not have actionable statewide information to help guide or response our should guide us in setting our future data priorities. The Michigan Data Hub provides us the best opportunity I am aware of to turn the data we have into the information we need." - Dave Cairy, MAISA

Many other examples of initiatives that are being enhanced by using the standardized environment of the MiDataHub have been described above. Rather than describe each again here, the following list should serve as a strong indicator of the empowering value of MiDataHub across a growing array of initiatives enhanced by MiDataHub.

MiDataHub Enhanced Initiatives		
CEPI's Snack-Pack	CEPI's UIC Services	CEPI's EEM Services
MSDS General Collection	MSDS EarlyChildhood Collection	MSDS TSDL Collection
Federal Civil Rights Data Collection (CRDC) Reporting	MDE's MiLearn	Eidex's Prism Application
MiStrategyBank	MiLaunchPad SSO	KRA rosters, reporting, and SSO
SAS EVAAS SGP Tool	Digital Equity Data Collection	Return to Learn benchmark assessment reporting
Student Growth Percentiles	Early Childhood Reporting	EduPaths Online PD System
Michigan Virtual	MDE's MiMTSS Tool	#GoOpen
MDE's EWIMS Process	Xello SSO user access	UofM 3rd grade reading research
CEPI's MiSchoolData (in MICIP)	MDE's MICIP	MIBLSI's MiEWIMS

Section 22M MiDataHub

Legislative Report Conclusions

January 2021

Legislative Goal 8a: 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

Goal 8a is being met with district and vendor adoption on schedule. State departments, educational organizations, and the field, in general, are embracing the infrastructure and benefiting from the common data standards.

Legislative Goal 8b: Utilizing the infrastructure to put in place commonly needed integrations, reducing cost and effort to do that work while increasing data accuracy and usability.

Vendor adoption is increasing, and numerous valuable integrations were delivered during the year. With LEA adoption nearing 87% and overall adoption near 86% (see chart page 19), ROI is exceeding $30,000,000 per year. Expectations for Goal 8b are being exceeded and ROI will continue to grow with increased district adoption.

Legislative Goal 8c: Promoting the use of a more common set of applications by promoting systems that integrate with the Michigan data hub network.

Goal 8c is already met. The SIS installed base has migrated to a smaller number of connected SISs. As districts change SIS, they are considering the integration status as a primary factor in selecting a replacement. Districts using the Illuminate or PowerSchool eSchoolPlus SIS are currently migrating to other SISs. New collaborations have formed and are developing common applications.

Legislative Goal 8d: Promoting 100% district adoption of the Michigan data hub network by September 30, 2021.

The goal is on target to be met with current rates predicting 100% adoption by September 2021. Significant efforts are underway and proving successful in reaching this goal, including partnerships with key vendor partners such as Eidex, SAS EVAAS, and the development of MICIP. The recent Return to Learn legislation is also moving districts to integrate with MiDataHub. Finally, an MSDS import will allow for districts to load basic student data, even if they don't use a connected SIS.

Legislative Goal 8e: Ensuring local control of data, data security, and student data privacy.

The goal is being met. The cockpit application provides local control of security and privacy for districts. Enhancements this year have improved auditing of permissions and integrations. The system, agreements and processes have been designed for security and local control based on best practices statewide. The expansion of the MiDataHub Single Sign-On is allowing district users to log in with the same credentials used in other systems.

Legislative Goal 8f: Utilizing the infrastructure to promote the actionable use of data through common reports and dashboards that are consistent statewide.

Goal expectations are being exceeded. Advisory is serving to prioritize efforts. Priorities, training, and ongoing development efforts include MiEWIMS, MiRead, MICIP, MiStrategyBank, Open Educational Resources, and Competency-Based Education.

Legislative Goal 8g: Creating a governance model to facilitate sustainable operations of the infrastructure in the future, including administration, legal agreements, documentation, staffing, hosting, and funding.

This goal is an ongoing work in progress, as legal agreements, structure, staffing, and governance models continue to evolve in planning. Consolidation to one hub at Oakland Schools was a huge step in streamlining and securing the MiDataHub infrastructure, supporting long-range sustainability.

Legislative Goal 8h: 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.

Goal met. Systemic efforts underway at MDE, CEPI, METL, MASSP, MEMSPA, MAISA, and others to leverage MiDataHub network across an increasingly wide range of current and future initiatives. Return to Learn legislation, the MICIP system, Digital Equity Data Collection, Direct Certification Services, research initiatives and much more show MiDataHub continuing to evaluate and innovate.

Conclusion

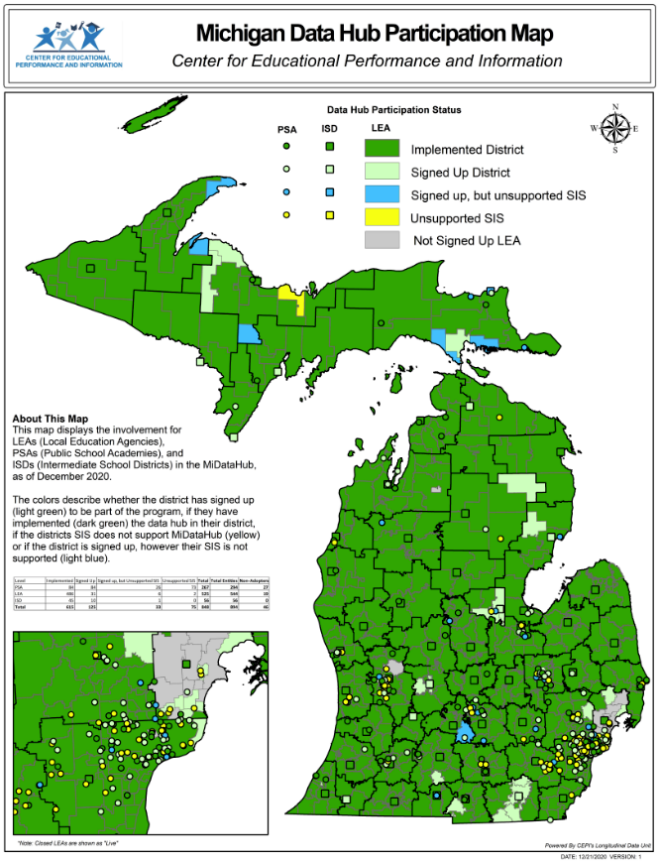
The MiDataHub project is exceeding expectations. With the return on legislative investment over 1000%, based only on the value of integrations, the net savings to the educational community for this year is estimated at over $30,000,000 for school districts. Currently, this equates to $13.64 for every dollar invested by the legislature this year. Productivity and actionable data enhancements are accelerating access to high-quality data for educators at levels that far exceed the direct ROI value.

APPENDICES

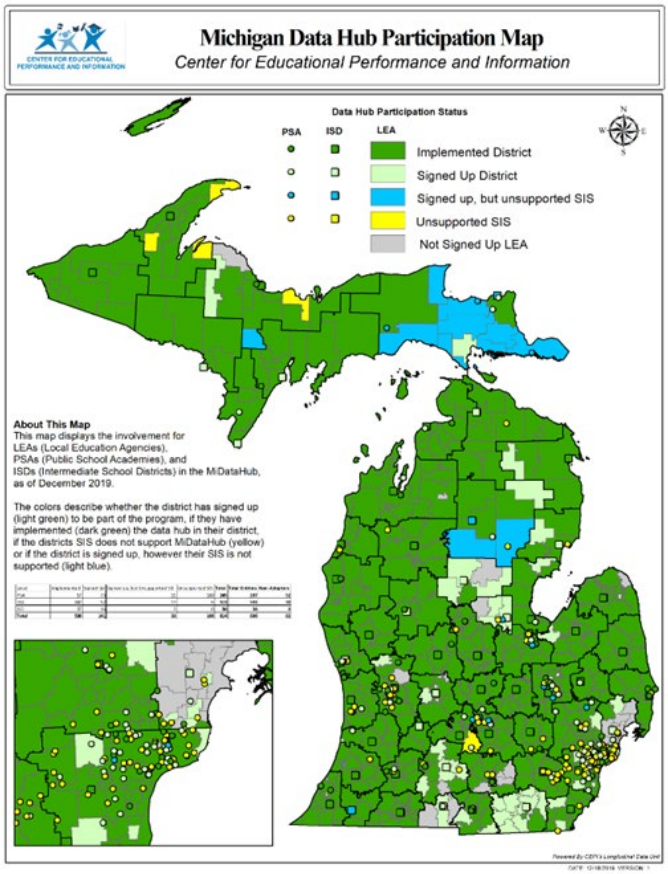
Appendix A

MIDATAHUB ADOPTION MAP

January 1, 2021



January 1, 2020



Appendix B

MIDATAHUB INTEGRATION INVENTORY

Numerous 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 in the MiDataHub Product Catalog.

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
Acadience Reading (formerly DIBELS Next)	Assessment	Testing - API Roster integration. Planned - sending back assessment data via API. CSV loading of assessments in production.	Testing - API Roster integration. Planned - sending back assessment data via API. CSV loading of assessments in production.	13% of districts per vendor-provided numbers
aimsWebPlus (Pearson)	Assessment	Roster integration certified. Testing process to load test results from CSV file.	Roster integration certified. Testing process to load test results from CSV file.	7% of districts per vendor-provided information
Algebra Nation	Educational Application	Rostering and SSO integration in production. Sending back usage information in production.	Rostering and SSO integration in production. Sending back usage information in production.	Legislative funding for 100% of districts
BrightArrow Alert	Notification System	Certified Roster Integration	Certified Roster Integration	2% of districts, but increasing due to integration
Career Cruising/ Xello	Career Planning	Certified Roster and Transcript Integration. Planned - student portfolio and schedule requests transfer to MiDataHub. SSO integration in production for both.	Certified Roster and Transcript Integration. Planned - student portfolio and schedule requests transfer to MiDataHub. SSO integration in production for both.	44% of districts, but growing due to MiBrightFuture work

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
CEPI Direct Certification Services	Food Service Data	N/A	In development with testing in Q1 2021. Will provide food service data to SIS and Food service systems.	100% of districts
CEPI EEM Integration	School Data	Certified and in production	Certified and in production	100% of districts
CEPI Snack-pack	Portable Records	In production for MISTAR-Q SIS, with others in development.	In production for Infinite Campus MISTAR-Q, PowerSchool, Skyward, and Synergy.	100% of districts
CEPI UIC Integration	Identity	Certified in Infinite Campus, PowerSchool, MISTAR-Q, and Skyward tools. In Development with Edupoint Synergy.	Certified in Infinite Campus, PowerSchool, MISTAR-Q, and Skyward tools. In Development with Edupoint Synergy.	100% of districts
Curriculum Associates iReady	Rostering and Assessment	Rostering via Ed-Fi API and assessment transfer via Ed-Fi XML.	Rostering via OneRoster API and assessment transfer via Ed-Fi XML.	5% of Districts
Discovery Education	Educational Application	Certified integration via OneRoster API and uses SSO federated logins.	Certified integration via OneRoster API and uses SSO federated logins.	Usage percentage is unknown. 2 live districts.
Ed-Fi API	Integration Platform	Upgraded to Ed-Fi 2.4	Upgraded to Ed-Fi 3.1	100% of districts
Ed-Fi Dashboards	Dashboard	In production – receives all data and writes back intervention data.	In production – receives all data and writes back intervention data.	100% of districts

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
Edupoint Synergy	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	6% of districts
Eidex	Dashboard Application	Certified- Pulling multiple years of data via the API. Focus and Prism products.	Certified- Pulling multiple years of data via the API. Focus and Prism products.	60% of districts per vendor-provided numbers
Focus School Software	SIS	N/A	Providing data for one PSA in pilot, with others to follow once certified.	Less than 5% of PSAs.
Follett Destiny	Library Management System	Testing OneRoster API Integration.	Testing OneRoster API Integration.	35% of districts.
HMH – Ed: Your Friend in Learning	Educational Application	In production - OneRoster API Integration.	In production - OneRoster API Integration.	Unknown
HMH – ThinkCentral	Educational Application	In production - OneRoster API Integration.	In production - OneRoster API Integration.	Unknown
Infinite Campus	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	3% of districts
KRA – Kindergarten Readiness Assessment	Assessment	Production rostering from Ed-Fi API.	Production rostering from Ed-Fi API.	100% of districts
McGraw-Hill Wonders	Educational Application	Production rostering from OneRoster API.	Production rostering from OneRoster API.	Unknown
MealMagic	Food Service System	Certified and in production.	Working to upgrade to v3.1.	At least 40% of districts

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
MDE MiLearn	Dashboard	Production of sync authentication, roster, and student-parent relationship data certified. MiLearn functionality is available in 2 of 5 SIS tools (PowerSchool and MISTAR-Q). Remaining three are in development.	Production of sync authentication, roster, and student-parent relationship data certified. MiLearn functionality is available in all 5 SIS tools (PowerSchool and MISTAR-Q).	100% of districts
MDE M-STEP	Assessment	Certified	Certified	100% of districts
MDE PSAT and SAT	Assessment	N/A	In development	100% of districts
MDE WIDA	Assessment	In development.	In development.	100% of districts
MICIP Platform	School Improvement Tool	In Development	In production January 1, 2021	100% of districts
MiRead File Exchange	Reading Plan Development	Certified - provides data via API to the data exchange.	Certified - provides data via API to the data exchange.	100% of districts (81% based on currently connected assessments)
MISTAR-Q	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	8% of districts
MiStrategy Bank	Educational Strategies	Testing	In production using data from Mi Data Exchange	100% of districts

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
Munetrix	Dashboard Application	Piloting	Production use in 35 districts.	Unknown
NWEA MAP	Assessment	Certified - Daily ingestion of assessment results for districts that have signed agreement and configured integration.	Certified - Daily ingestion of assessment results for districts that have signed agreement and configured integration.	62% of districts
OneRoster (IMS Global)	Roster	Roster read functionality in production. Write capability in development.	Roster read functionality in production. Write capability in testing. Enable over 300 products for integration.	100% of districts
PowerSchool	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	53% of districts
SAS EVAAS	Reporting System - Value Added Metrics	Certified roster integration	Certified roster integration	100% of districts
SchoolZilla	Dashboard Application	Testing - Full API receipt of student data, attendance, discipline, grades, transcript	Testing - Full API receipt of student data, attendance, discipline, grades, transcript	Unknown
Skyward	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	16% of districts
SunGard/ PowerSchool eSchoolPlus	SIS	Ed-Fi XML integrated. Testing - State Reporting certification	Ed-Fi XML integrated. Testing - State Reporting certification. Upgarding to v3.1.	3% of districts

MiDataHub Integration Inventory

System	Type	2019-20 Integration Status	2020-21 Integration Status	Potential Impact
SWIS	Discipline Referral Tracking	Rostering and referral data loading.	Rostering and referral data loading upgraded to Ed-Fi v3.1.	Unknown
USA Scheduler	Student Master Schedule Application	Certified - Full API roster integration. Planned - sending back schedules for the next school year.	Certified - Full API roster integration. Planned - sending back schedules for the next school year.	Unknown

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 MiDataHub from other data sources. Files are transferred on a scheduled basis in 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 in secure protocols such as SFTP, SSL, and Azure storage.	Useful by districts and system vendors for mass populating other systems and for the reproduction of legacy integrations where an API connection isn't yet provided by a vendor
Multiple Outbound Destinations	Allows for outbound integrations to flow to more than one destination. 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 like MiExcel and MiLearn. The capability also exists for districts to revoke their approval of any agreement.	Superintendents and any vendors that have functionality that a district would need to opt into using

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Proxy Designation	Because 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
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, HR or other integrated products. 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 to MiDataHub. When that is completed, district users (staff, students), 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 again in most cases.	All district staff, students and potentially parents
Manage Users	A district can manually add users who are not provisioned in any other fashion. 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 has 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, 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, easy way to do that work.	Data hub staff and system administrators
ODS Anonymization	To demonstrate the 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 a year to year 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 MiDataHub so that district data can be checked against the rules, allowing records to be corrected. The initial implementation was to add all of the CEPI MSDS rules for the error check process.	District state reporting staff and data stewards
MSDS Collection Extractor	The ability to generate various MSDS data collection files has been created. Testing of these files is underway with the goal of certifying them for various SIS vendors by the end of the school year (June 2020).	District state reporting staff and data stewards
MSDS Collection Comparison	This feature allows for a district's 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 the 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.	DataHub system administrators and data hub staff can approve. Any district technical contact may submit a request

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
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
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. Eventually, there is a desire to 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 the planning of data integration needs.	District tech directors and eventually interested parties in the information to inform integration decisions
ODS Management	Formerly 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. Additionally, districts can create an ODS for future or previous school years on demand.	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 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

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
UIC Automation	The Ed-Fi API has the 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
Alerts	The Alert functionality will allow for districts to be notified either of audited events that occur (changes to their users/integrations) or scheduled events that check for data quality issues.	All districts will use these to ensure that their data stays up-to-date and accurate.
CEPI Snack-pack	This Portable Records (Snack-pack) functionality will provide information for newly enrolled students so that districts have the information that they need to provide the appropriate services for the student.	All districts will find this valuable as it is supported by their SIS.
Direct Certification Services	This service will allow approved systems to look up the Direct Certification of a student or all students in a district for free lunch. This alleviates the need for districts to manually download the data.	All districts will find this valuable as it is supported by their SIS and/or food service system.
MICIP Readiness Check	Districts that utilize the MICIP 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
Open Badge Import	This functionality will allow badge information to be imported to a district ODS for recordkeeping and future analysis	All districts will find this valuable.

Appendix D

MIDATAHUB ACTIONABLE DATA FEATURES AND INITIATIVES

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Digital Equity Data Collection	Gather information on student devices and internet access. This information allows for identification of gaps in equity of access.	100% of districts
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 the ability to track students from pre-K programs into and through elementary school to assess program effectiveness.	100% of districts
EWIMS (Early Warning Intervention and Monitoring System)	Universal dropout prevention toolset. Research identifies clear impact on attendance and grades, both significant early indicators of student dropout.	100% of districts
Kindergarten Readiness Assessment	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.	33% of districts in 2018 66% (2019) 100% (2020)
MICIP	Development of the Michigan Integrated Continuous Improvement Process Application is underway. Work is being led by the Michigan Collaboration Hub (MiCH) development team in conjunction with MDE. MiDataHub has been identified as one of two primary data sources for MICIP and the MiDataHub SSO will be the login method for district access.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
MiRead	Online tool to support 3rd-grade reading law requirements, processes 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
MiDataExchange	Developing and intermediate level database that is fed from district MiDataHub 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 MiDataExchange. There, data can be accessed to operate MiRead, MICIP 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 (CEPI's Student Backpack), will ensure that new schools have student records within minutes. This instant access to data will ensure that students are placed in the appropriate grades and courses and receive much-needed supports immediately.	100% of districts
MiStrategyBank (MSB)	A standardized tool to inform and manage the assignment of interventions based on individual student needs. Includes pre-populated interventions to encourage and support best practices. Will support programs such as EWIMS, MiRead, At-Risk, Title, and school improvement. MSB is designed to evolve into the educational strategy hub, powering a vast array of educational applications in the future.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Read by Grade 3 Research Grant	Provides assessment data and other student information to help gauge the effectiveness of the Read by Grade 3 law. This information can help gauge the need for changes to the law and/or to show the benefits being achieved as a result.	100% of districts
Talent Transcript	An electronic, visual, transportable transcript that provides a complete picture of a student's 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 our 30% of college-bound students to all students regardless.	100% of districts
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	Private sector solutions (Vendor partners Eidex and SAS EVAAS) emerged in 2019 to fill the gap identified in 2018. Support for these and other tools enhance MiDataHub's ability to support the field in this space.	100% of districts

Appendix E

DISTRICT SUPPORT SPECIALISTS AND MIDATAHUB STAFF

Name	District Area
Melissa Tront	SJCISD
John Londono	SJCISD
Doug Jarvi	CCISD/REMC1
Mike Richardson	CCISD/REMC1
Mark Nordin	CCISD/REMC1
Jamie Jarvi	CCISD/REMC1
Ted Belej	CCISD/REMC1
Josh Hiner	CCISD/REMC1
Will Nankervis	CCISD/REMC1
Lisa Sutphen	Shiawassee RESD/Cliton/Eaton
Loretta LeCount	Berrien RESA
Stephanie Gabriel	Washtenaw ISD
Ryan Liskiewicz	Washtenaw ISD
Greg Shepard	Ottawa Area ISD
LeAnn Szymanski	Ottawa Area ISD
Mark Wiegerink	Ottawa Area ISD
Bryan Smith	Ingham ISD
Brian Kobliska	Ingham ISD
Kevin Hoornstra	Ingham ISD
Dan Yenchar	Wexford Missaukee ISD
Sally Riffle	Wexford-Missaukee ISD
Donna Johnson	Wexford-Missaukee ISD
Janell Craig	Oakland Schools
Doug Metcalf	Oakland Schools
Christian Anderson	MacroConnect
Paul Cameron	MacroConnect
Anne Schimelpfenig	Wayne RESA/Livingston
Robert Kaminski	Wayne RESA
Ashley Dunford	Wayne RESA/Livingston
Melisa Swoish	Tuscola ISD
Lukas Enciso	Van Buren ISD
Tim Hamelink	Van Buren ISD
Lisa Thorne	Van Buren ISD
Julie Martin	Genesee ISD
Tony Howard	Genesee ISD
Laura Caballero	Genesee ISD
Anthony Delling	Genesee ISD
Joe Owczarski	Genesee ISD

Michelle Dowdall	Genesee ISD
Matt Molloseau	Genesee ISD
Peter Nethercott	Kent ISD
Garrett Burgett	Kent ISD
Chris Barnwood	Kent ISD
Stephanie Abata	Marguette-Alger RESA
Jeff Kamaloski	Manistee ISD
Sandy Whitcomb	Monroe ISD
Lisa Cyrus	Lenawee ISD
Tina Bowers	Lenawee ISD
Terra Kelpinski	Saginaw ISD

Appendix F

LINKAGES TO OTHER INITIATIVES AND FUNDING

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
3rd Grade Reading	Transport roster and assessment results for approved assessments.	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. SSO for Career Cruising and Xello.	44% of students
Directory Information, HB 5140, section 1139a	Exploring the development of directory reporting tool with local options and standard exports and reports	100% of students
Educator Evaluation, Value Added Growth 95b	Vendor partners Eidex and SAS EVAAS	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	Badging 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 use data (see 99c above)	100% of students
Kindergarten Readiness Assessment (KRA)	Scheduled to connect KRA for student rostering and assessment results prior to required pilots, summer 2018	33% of students for 2018, 100% by 2021

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
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
MiLearn	An online portal, leveraging single-sign-on from local district parent and teacher portals to provide access down to student level M-STEP 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
Return to Learn	Sections 104(8) to 104(15) of PA149 require districts to deliver benchmark assessments and report the results in aggregate form so that CEPI and MDE can provide reports on the effects of the COVID-19 pandemic on student learning. MiDataHub will collect assessment data and aggregate it in CEPI-approved subgroups for reporting.	100% of students

Appendix G

MIDATAHUB ADVISORIES

MiDataHub Actionable Data Advisory

Name	District	Title
Tim Davis	Kalamazoo RESA	MiDataHub Relations Manager
Frank Holes	Allegan AESA	Data & Improvement Specialist
Mike McGroarty	CEPI	Director, CEPI Office of Analytics & Reporting
Stan Masters	Lenawee ISD	Coordinator, Instructional Data
Kristi Martin	Macomb ISD	Director
Dave Cairy	Michigan Collaboration Hub	Director
Tonya Harrison	MOISD	Director of General Education
Heidi Kattula	East Grand Rapids Public	Superintendent
Joyce Sackleh	Oakland Schools	Director of Applications
Steven Snead	Oakland Schools	Supervisor of Curriculum and Instruction
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
Dr. Lisa Lockman	Wexford-Missaukee ISD	Director of General Education
Dr. Brandi-Lyn Mendham	Zeeland Public Schools	Director of Curriculum & Technology

MiDataHub Data Integration Advisory

Name	District/Agency	Title
Doug Trombley	Bay-Arenac ISD	Director of Technology and Postsecondary Preparation
Tom Howell	CEPI	Executive Director
Trina Anderson	CEPI	Director, CEPI Office of Integration
Doug Jarvi	Copper Country ISD	System Engineer
Davie Store	CMU Center for Charter Schools	Director of Data Analysis
Jason Kronemeyer	EUPISD	Director of Technology
Bryan Smith	Ingham ISD	Sr. Systems and Development Analyst
Garrett Burgett	Kent ISD	Information Systems Team Lead
Cheryl Ulsh	Kalamazoo RESA	Data Support Specialist
Nicholas Hay	Monroe ISD	Director of Information Services
Kristi Martin	Macomb ISD	Director, Management Technology
Dave Judd	MDE - P20 Data	Director
Joyce Sackleh	Oakland Schools	Director of Applications
Melissa Tront	St. Joseph ISD	Database Administrator
Doug Olson	TBAISD	Technology Systems Manager
Kurt Rheaume	Wayne RESA	Director of Information Technology

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 school districts use 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 several 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 solving this issue on a broad scale. SIF involved the exchange of data in a standardized format, referred to as XML format (the same format currently used for Michigan State reporting to the Center for Educational Performance and Information - 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), as it was called, 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 had lacked the free time to work on the project successfully.

The next initiative was the Regional Data Initiatives (RDI) grant. This grant spun up a number of data warehouse implementations that were designed to bring together data from disparate systems for district use. The RDI projects faced a number of challenges from difficulty in data integration: reliance on existing staff that were spread too thin, minimal collaboration between projects, 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 and newly formed national data standards from the Ed-Fi Alliance, MiDataHub concept was born and quickly began to gain support. The resulting MiDataHub (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

DISTRICT FEEDBACK

Snack Pack Review

Farmington Public Schools was asked by Oakland Schools MiStar Team if we would like to participate in the Snack Pack Pilot program. We said yes instantly. Being able to find out more information about incoming students immediately upon entry into our student information system (SIS) is a game changer.

More times than we can count, a new family enrolls a student and we are not informed the student had or has an Individualized Education Plan (IEP). We have the same thing happen with students who speak another language. They complete the Home Language Survey as English speaking both as home and primary language. As an English speaker, no English Language (EL) services are provided.

With the Snack Pack information, we can find out upon enrollment whether a student had an IEP in their former district or if they received EL services. If the enrollment information matches the Snack Pack data, we are good. If not, we contact the family again and get the correct information. This allows us to begin service immediately for the continuity of educational services instead of the student falling behind in a new school. We have a simple system in our district that after a student enrolls, the enrollment secretary checks the Snack Pack data against the enrollment form. If any of the information is different, they copy the Snack Pack information for the staff member responsible for that department.

We also have the ability to find out if a student was in a previous CEP district. If so, we offer them free lunch for 10 days until the parent has time to complete a new lunch application. We are able to see the number of days the child attended school along with the number of days of enrollment. We are also able to see if the child was homeless or in foster care in the previous district.

In one instance, we received previous school data for one sibling but not the other one. We did some checking in MSDS and discovered the child's primary UIC number. Our secretary entered the student data differently into our SIS. The Data Hub assigned a new UIC to the student. We entered the student's correct UIC into our SIS and instantly the Snack Pack data was available. I linked the two UIC's on the state site. If we had not had this Snack Pack data for one sibling to look at, we would not have known so quickly that we had the wrong UIC in our SIS. This is a wonderful bonus of the Snack Pack data.

The Oakland Schools MiStar Team in conjunction with the Wayne RESA MiStar Team has created notifications for districts also. We can set up notifications for text messages via cell phones or email along with the regular notification in MiStar. This is an added feature for staff members who do not use our SIS on a daily basis. The Snack Pack program has been very beneficial to our students and staff. We are looking forward to the expansion of the program.

Our vendor is still working towards getting these new functionalities built but I thought it would be best to give you our story. Our organization is very hopeful and have encouraged our vendor to work on the CEPI Integration and Snack-pack because we see the value that these tools will provide our districts. These two areas are recurring agenda items when we meet with our districts so that way they understand how the work the DataHub is doing will impact and improve their existing processes. We can't wait to take advantage of the hard work the DataHub group has put into these projects.

— Tony Howard, Student Data Application Lead, Genesee ISD

The time saving for districts of automatically being able to receive the UIC number is amazing. They no longer have to wait until someone else uploads information into MSDS and they have the UIC number to use in a variety of other systems, like Illuminate and NWEA.

— Melissa Tront, Data Base Administrator, St. Joseph County ISD

Oakland Schools Technical Campuses are enthusiastic about our new implementation of Snack-pack. As technical campuses, we partner with sending schools and districts in educating students. The efficiency that Snack-pack provides by immediately alerting our team to valid data regarding the students we serve, specifically with special populations indicators, cues us to collaborate with sending schools to plan and prepare for prompt and deliberate delivery of necessary services. Ultimately, Snack-pack allows us to ensure that we are on the forefront of ensuring all students can experience success. This data initiative is gold. We see multiple areas for potential use should the project expand.

— JaCinda Sumara, Oakland Schools

We have just begun to use Snack-pack. So far, we have had positive feedback. Getting new student notifications via email is very nice compared to just receiving the notifications in MISTAR. Some of my staff are in MISTAR on a limited base but have their email open all day. Also, as the enrollment secretary, I can get important data on a new student even before they begin school. Examples:

- Special Education Info: Sometimes parents don't tell us that a student has an IEP.
- Previous Attendance: Schools can be alerted about the previous attendance and can monitor the student's attendance in the current school year before it becomes a truancy issue.
- Economically Disadvantaged: Students receive Free or Reduced school meals on the first day. No longer need to wait for a parent to complete a new application.
- Homelessness Program Participation: Schools can find out immediately if a student was homeless in the previous district and can continue services.

— JaCinda Sumara, Oakland Schools

Appendix J

Glossary and Web References

GLOSSARY

- **API (Application Programming Interface):** An API is the basis of interoperability, allowing other programs to GET (receive data), POST (write data), PUT (update data) and DELETE (remove data) from/to the MiDataHub 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 of MiDataHub hosting locations collectively, and often substituted for the MiDataHub.
- **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 that is leveraged by the MiDataHub.
- **Funding Year:** The funding year for section 22m used for this report is October 1, 2017, to September 30, 2018
- **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 Edsurge article)
- **MiDataHub:** Represents the overall interoperability initiative as well as a collective representation for MiDataHub.
- **MIDataHub:** An abbreviation commonly used for The MiDataHub, (pronounced “My Data Hub”).
- **MSDF:** Acronym for the Michael and Susan Dell Foundation, the funder and parent organization of the Ed-Fi Alliance.
- **ODS (Operational Data Store):** The database where district data is housed. Each district has an ODS with its 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.

- **SFTP (Secure File Transport Protocol):** This is a secure, encrypted method of sending data files.
- **Uptime:** The percent of the time in minutes that the hubs were up and running.
- **XML (Extensible Markup Language):** This is 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/1IlrmaO0ZWoZgtdj3BGHUOLgsD2vVrpA9D7GzfuECg_s/edit?usp=sharing
- MiDataHub Website www.midatahub.org
- EdFi Alliance https://www.ed-fi.org/
- Ed Surge Article 1 https://www.edsurge.com/research/guides/what-does-it-take-to-make-interoperability-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-interoperability-real
- IMS Global Website https://www.imsglobal.org/
- Project Unicorn https://www.projunicorn.org/
- Education Week Article [1]https://www.edweek.org/ew/articles/2013/03/14/25datadelivery.h32.html
- Digital Promise League of Innovative Schools Report https://digitalpromise.org/wp-content/uploads/2017/08/DataInteroperability_Final.pdf

Appendix K

Cost Savings Calculations

There are no great sources for determining the amount of cost savings due to integrations. Probably the best source is the ROI Study that was completed in the Summer of 2016. That study found that the MiDataHub could potentially save districts more than $56M per year by eliminating duplicate efforts in data integration, providing shared tools to support ongoing data management tasks, and streamlining and partially automating compliance reporting submissions.

For purposes of this report, a figure of $7,371 per integration was used in determining cost savings. This savings was based on figures from the ROI study that indicate that the median district spends $71,500 on integrations and that the average district has 9.7 existing connections. Dividing the median cost by the number of connections yields the $7,371 figure used. It is important to note that in some cases, such as MiLearn, several integrations are required to provide the data properly for that solution. In other cases, one integration serves multiple purposes. Such is the case with an SIS integration, which also allows for UIC information to integrate, even though no specific integration is configured for that service. No attempt was made to adjust the numbers for either scenario.

Finally, the cost savings do not include the tremendous benefit achieved through the actionable use of data provided by MiDataHub and related applications. MiLearn, MiRead, MiStrategyBank, the MiDataHub dashboards, EWIMS and other applications in use dramatically add to the amount of value and return on investment from this work.

For more information, please review the ROI Study document: "The MiDataHub: A Strategic Alignment and ROI Study."