LEGISLATIVE REPORT

2019-2020

Section 22m

Michigan Data Hub Grant Progress

CENTER FOR EDUCATIONAL PERFORMANCE AND INFORMATION

MICHIGAN DataHub

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Foreword

The Michigan Data Hub (MiDataHub) is truly a statewide collaborative—and a very successful one. Whether you talk to local, regional or state partners about the work, the power of "we" is echoed in support of the education community in Michigan. The focus this year on shared services across state and local systems through integrations in the MiDataHub continues to enhance what the hub really means, improving the efficient and effective management of education data statewide. The partnerships have broadened to include many new groups this year, each contributing to meet emerging local needs. The MiDataHub vision of supporting educators and students continues—this report highlights the great progress that has been achieved toward accomplishing key goals outlined by the legislature in section 22m of the State School Aid Act. The many partners contributing to this work remain dedicated, energized and committed to continuing the long-term gains that are taking shape.

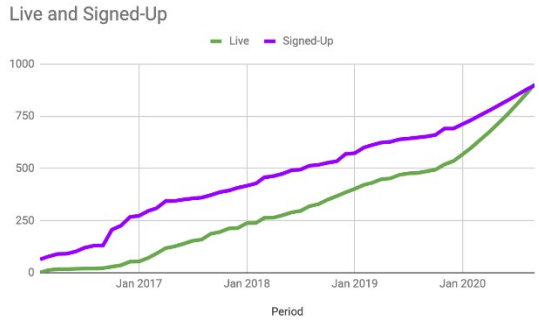
Whether a district is looking to leverage simple efficiencies that the MiDataHub has to offer like automated rostering, to the more advanced features like the integration of the State Unique Identification Coding services that brings data right back into a local student information system via the MiDataHub connection, there is value found in becoming an active member of this collaboration. Many schools are starting to obtain more timely information about a mobile student's history in partnership between the MiDataHub and the state via the "Snack Pack" service, so individualized characteristics and the need for important supports and services are more easily identified and acted upon based on these important connections between state systems and the MiDataHub. There are so many great examples to share, and we hope this year's report provides you with a view into the dedication that local, regional and state civil servants bring to this collaboration, and we look forward to continuing to build upon and improve information management practices state-wide.

Thomas Howell
Executive Director
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

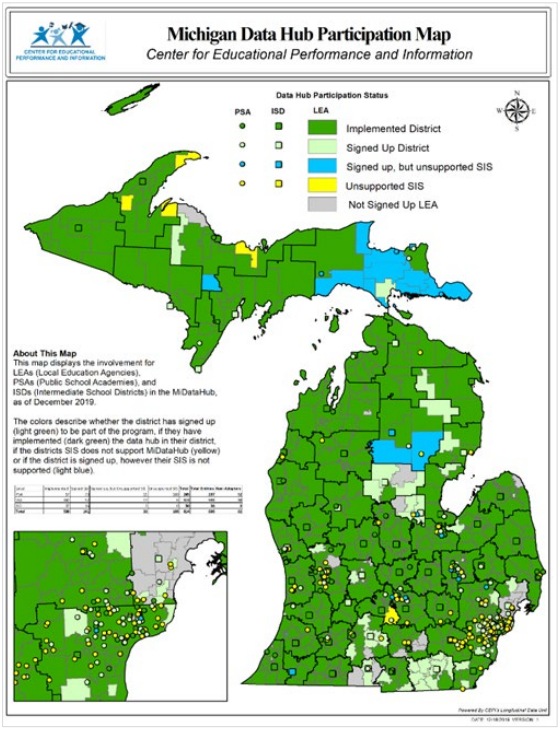
Active district connections to MiDataHub infrastructure have increased from 385 at this time last year to 536 today. As of December 2019, total participation increased by 133 for a total of 718 districts (80%) and 1,334,418 or 88% of Michigan's K12 students are participating.

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. Eidex leads the way with 265 connected districts. SAS has 206 districts connecting to its Education Value-Added Assessment System (EVAAS) tool, with 177 districts configured to load its NWEA assessment data into MiDataHub, while CareerCruising/Xello has grown to 144 connected districts. Other vendors are also beginning to leverage this valuable resource.

INTEGRATING SCHOOL DATA SYSTEMS

MiDataHub is currently providing 3,431 active connections (integrations) between school data systems today, a 186% increase from one year ago.



The total annual value of these integrations is over **$25 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. Four examples, in particular, stand out in the areas of Classroom Supports, Promoting Evidence and Research-Based Practices, and District Improvement— and are highlighted below. These value-added features are opportunities that exist solely because of the standardized flow of data through MiDataHub, referred to as "Powered by MiDataHub."

SUPPORTING OTHER LEGISLATIVE INITIATIVES

1. **Third Grade Reading Law:** In support of section 1280f of the Revised School Code, the MiRead web application went into limited production this school year in approximately 100 school districts. Collaboratively developed by Michigan's Intermediate School Districts (ISDs) and educational associations, MiRead is built to support creating and sharing Individualized Reading Improvement Plans (IRIPs). (See pages 24 to 25 for more details.)

2. **Student Growth Percentiles (SGPS), Value-Added Measures (VAMS), and Educator Growth and Evaluation:** In support of two specific legislative initiatives, SGP (section 380.1248) and VAM (section 388.1695b), Eidex and SAS EVAAS now rely on data provided exclusively through MiDataHub to support use by educators across Michigan. Without MiDataHub integration, these vendors would be unable to provide the critical classroom and student-specific data needed for schools to use their tools. During the past two years, over 470 integrations have been created for districts to one or both of these tools to support their improvement and evaluation efforts.

3. **MiStrategyBank:** First built as a sister system to support evidence and research-based practices in MiRead, MiStrategyBank is proving to be a resource that will improve access to information about instructional practice and student achievement while at the same time, serve as a conduit to deliver best practices to schools and classrooms. MiStrategyBank, much like MiDataHub, delivers data, is now delivering instructional practices to our data systems.

   As a foundation of the Michigan Integrated Continuous Improvement Process (MICIP), MiStrategyBank will inform district improvement efforts at the district, building, and classroom levels. Partnerships this past year with the Great Lakes Comprehensive Center and the American Institutes for Research have brought rich national resources and expertise to Michigan in the form of vetting and populating the system with high-quality, well-proven, research-based strategies for district improvement.

4. **MICIP:** Michigan's Integrated Continuous Improvement Process, is poised to launch in the fall of 2020. In partnership with CEPI, MDE, MAISA and others, MiDataHub is playing an active role in ensuring that accurate and current local data will always be part of the planning process for schools. The partnership includes MiDataHub, along with MiSchoolData, as the two primary sources of data for the new MICIP Platform. MiStrategyBank, a MiDataHub Actionable Data Project, will be the sole source of improvement strategies powering the MICIP Platform.

536
live districts

Over **150,000** *UIC transactions processed for* ***373 districts*** *– more than 4 times what was in 2018*

Over
31,000
new UICs created

Over
3,400
integrations in use

Over
1.2 million
student records

MiRead and MiStrategyBank launched with nearly
100 districts

Michigan Data Exchange (MiDX) launched with
95 districts

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

1 million
students reached for 2019-20 School Year by October 20th – Fastest ever

160 districts
have their logins connected to the MiDataHub SSO

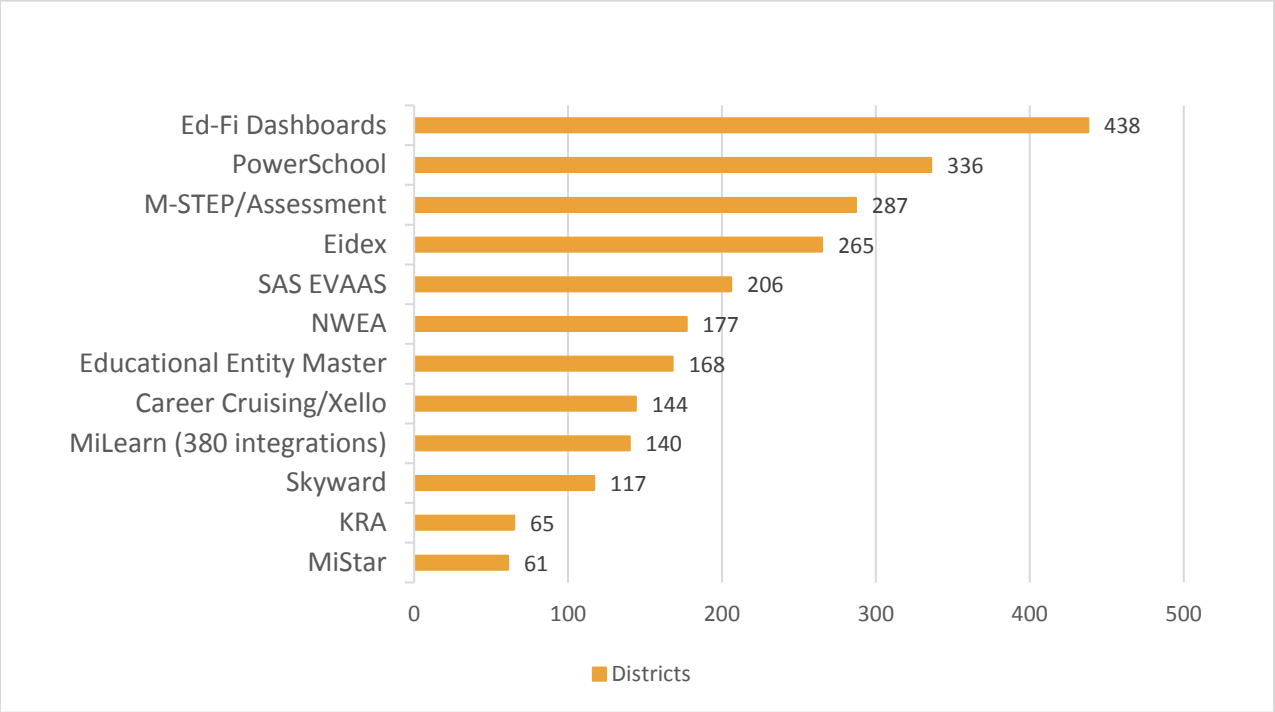
74 districts
have opted in for the Snackpack feature, generating 21,600 requests *since it has been in production.* ***47 districts*** *have used the Snackpack in the last two weeks, for over 6,200 requests.*

Product Catalog launched

The Portable Records (Snackpack) process was piloted successfully and is now live

Successfully upgraded to Ed-Fi v2.4

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.
3. **MICIP** is in development, powered by MiDataHub and MiStrategyBank.
4. **Approved early literacy assessments** are integrated with MiDataHub, including Acadience Reading, AimsWebPlus, iReady, NWEA and Star Reading.

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,
- And a diverse array of educational efforts is being supported and enhanced.

Already supporting students, parents, teachers, administrators, schools, districts, Michigan Department of Education (MDE) efforts and the requirements of the Center for Educational Performance and Information (CEPI), 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 $12.5 million. This year, that number has increased to well over $25 million, a tremendous return on the 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 edtech or software tools/products" and that "only 33% of districts report that they have gotten more than half of their teaching and learning tools linked with their student information system." MiDataHub currently provides 3,431 integrations for Michigan districts, an average of 6.4 integrations per district. As MiDataHub scales to nearly 900 districts connected and integrates a greater number of systems, these numbers will continue to grow, 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 has established an infrastructure of five fully functional data hubs that can effectively manage the movement of educational information statewide. The five hosting locations are Copper Country ISD, Kalamazoo RESA, Kent ISD, Oakland Schools and Wexford-Missaukee ISD. All five data hubs are connected via a virtual private network to keep MiDataHub separate and protected from other systems. Work is underway to consolidate the database portion of the five hosting locations into a single data server that will be replicated for improved reliability. Further, MiDataHub hosting locations are all linked by 100Gb high-speed connections via the Statewide Education Network (SEN), allowing for the traffic to be securely handled within Michigan rather than the commercial Internet.

In partnership with the Michigan Collaboration Hub (MiCH), along with the SEN and the Michigan Educational Technology Leaders (METL), the MiDataHub team is exploring additional hosting options, including cloud hosting. This work, initially called MiCloud, is a broad-based exploration of available options and cost-effectiveness for MiDataHub and other collaborative initiatives that are being explored. This work has resulted in a movement towards a OneDataHub concept where all the data hubs will be consolidated to a single hub, resulting in significant cost savings and enhanced performance.

The movement of data 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 state agencies use to report their data to the federal government. Currently, 30 of the 50 states have adopted this standard. Although not the first to adopt this standard, Michigan has been a pioneer in the use of the Ed-Fi standard for interoperability purposes. While the standards-based interchange of data represents the "how," the improvement of student achievement is the "what" that really matters. In 2019, MiDataHub updated its use of the Ed-Fi standard to version 2.4. And in the summer of 2020, MiDataHub will update to version 3.1. These updated versions will allow Michigan to continue moving forward in connecting to the various products used throughout the state.

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 API on top of the Ed-Fi data store allows MiDataHub to be multilingual. When a system needs just roster data, the OneRoster API becomes an option for that. When more robust information is needed, or data needs to flow bi-directionally, the Ed-Fi API is preferred. Work on a read-only version of the OneRoster 1.1 application programming interface (API) was completed in 2018, and the MiDataHub OneRoster API implementation was certified by IMS Global in May 2019. 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 will accelerate the integration of data systems and drive district adoption. With the success of the OneRoster read-only API, 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 is expected to be completed in early 2020.

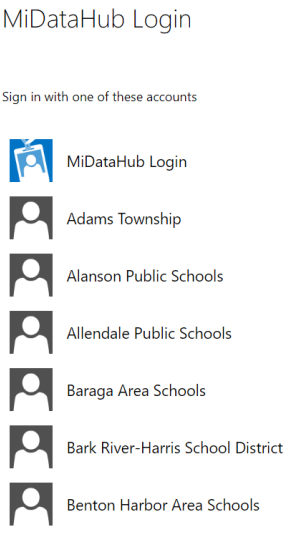
New to the MiDataHub infrastructure in 2018 was the creation of the Michigan Data Exchange (MiDataExchange), which was created to provide data for applications such as MiRead and MiStrategyBank applications. Typically, district data is stored in an operational data store (ODS) specific to that district. When districts opt into MiDataExchange, the portion of their data that is needed to power statewide applications is put into the data exchange. That allows for districts to have the data that they need for the 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.

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, data standards were not implemented between Michigan's collection systems, longitudinal data system (MSLDS), and 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 is being 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 2019 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 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, 164 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.



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 SIS, as they represent most of the data that districts track. Now that the Student Information Systems (SIS) integrations are largely functional, efforts are ramping up to achieve additional vendor adoption. As of the last legislative report, there were 28 integrated systems with 1,837 instances of those integrations in use. As of this report, 45 systems are integrated, with 3,431 instances of those integrations in use.

To improve the process of onboarding and supporting vendor partners desiring to integrate with the MiDataHub, a vendor relations manager position was created. This position involves 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.

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

EIDEX AND SAS EVAAS

Starting in 2018, the 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, and that 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 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 2019, current integration totals for both SAS EVAAS and Eidex are below. 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:

Vendor	# of active integrations
Eidex	265
SAS EVAAS	206

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 seven districts, up from two 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 in pilot testing currently and should be released for general use in early 2020.

MI SCHOOL DATA

The MiDataHub team is partnering with CEPI, Macomb ISD and Shiawassee RESD to oversee the implementation of the MI School Data Redesign Grant, which will facilitate the redesign and modernization of the MI School Data portal. The goal is to provide information in a more intuitive, comprehensive and actionable manner. The work will also involve aligning the MI School Data portal as well as the Michigan Statewide Longitudinal Data System (SLDS) to the same standards used for MiDataHub, allowing those systems to more easily exchange information where beneficial. A final piece of that work would allow for the MiDataHub SSO to be used to authenticate users to MI School Data and vice versa.

M-STEP

The M-STEP assessment is an online test assessed for the first time during the Spring of 2015. This statewide adopted assessment will assess 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, new functionality was released that brought one of the more anticipated features school districts have been waiting for. This functionality provides the delivery of M-STEP results directly from the State of Michigan data systems to the data hub database (ODS) for each district that configures the integration. 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 2019, 287 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.

At a recent MiDataHub retreat, MDE met with district representatives to discuss the prioritization of additional assessment types for transfer. MDE has plans to work on WIDA, MiAccess, PSAT, AP tests and other assessment data that they have based on the prioritization provided by districts.

MEAL MAGIC

Meal Magic Corporation has provided food service management software to K-12 schools in Michigan for over 30 years. Meal Magic is a K-12 food service management leader throughout the state of Michigan, with its product used in over 50% of the districts throughout the state. MealMagic has created an API integration with MiDataHub, and at present, 53 districts in the state are using that connection. We have had discussions with this vendor on working towards the integration of Direct Certification information from CEPI as an additional benefit to districts through the data hub, and we expect that work to continue in 2020.

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 at 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 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)

As of December 2019, 196 districts are using the MiDataHubs to import NWEA assessment scores. The NWEA assessments for those districts are currently being loaded into each district's Data Hub ODS. Upon the assessment data being loaded in each district's data hub, it will be available in the MiDataHub dashboards as well as for exchange with other systems that use the data. Based on information from NWEA, this integration will impact up to 62% of districts statewide.

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 173 MSDS elements are mapped and available to be exchanged. Webinars have been held with SIS vendors to review these fields. During the Summer of 2019, development work was started to bring all the specifications up to date for the 2019-20 school year and to ensure that all processes were functional. Following up on that work, testing with pilot districts has been in process this Fall, and MiDataHub has created MSDS files that successfully uploaded into CEPI's test servers. Testing work is anticipated to continue throughout the 2019-20 school year, with initial availability expected during Fall 2020. 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 being 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 (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 2019, 144 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**.

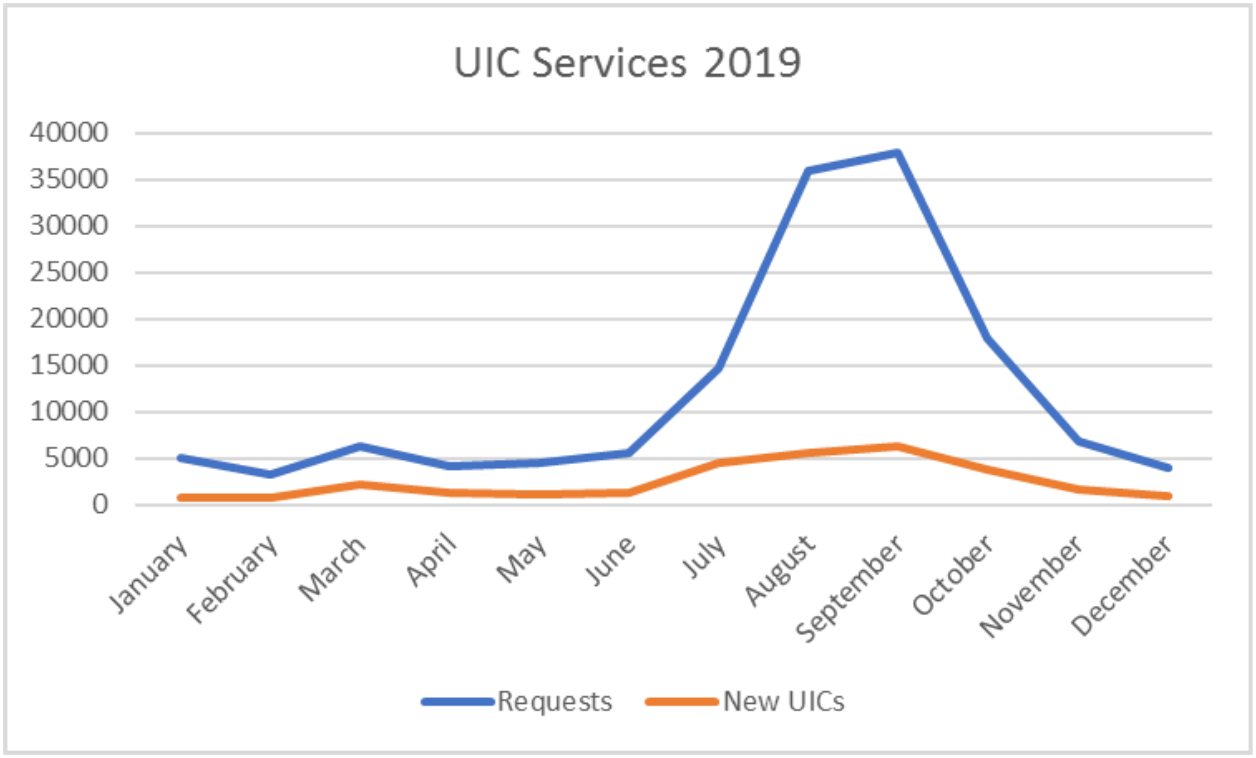
UIC INTEGRATIONS

The Unique Identification Code (UIC) is an extremely important state-assigned identifier for students. The current practice of obtaining a UIC for a student includes 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 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 nothing while saving significant time for school employees and allowing student data to begin to flow into the many other data systems used to support their learning. This functionality is currently live for 4 of the six integrated SIS in MiDataHub – Infinite Campus, PowerSchool, MiStar, and Skyward. Edupoint Synergy is planning to develop connectivity in 2020.

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. So far, for the 2019 calendar year, that number has grown to over 150,000 requests and over 31,000 new UICs for the 373 districts that used the service. Usage on the UIC services is expected to continue to grow exponentially as more districts use the services and more vendors support the work.

> 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 have completed this integration. Data will initially flow 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. Last year's report, the number of integrations has increased by over 185%, growing from 1,837 to 3,431. 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.

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

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

Much of this SIS migration has been attributed to districts pursuing student systems that have been identified by and connecting to MiDataHub. We are only aware of one other SIS outside of the identified six that have been implemented during the duration of this project, which is the Illuminate SIS. Thanks to the efforts of the team at the Eastern UP ISD, districts on the Illuminate SIS are also starting to connect to MiDataHub. Illuminate Education, however, has announced plans to "end support" for the SIS module of their product. Similarly, PowerSchool acquired the eSchoolPlus SIS and is encouraging districts to move toward their flagship product, the PowerSchool SIS. As a result of these two changes, we will see districts continue to consolidate to the five core SISs.

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, statewide bids and contracts are also beginning to require integration. MDE now considers the use of and potential MiDataHub can bring to any new initiative. The SAS EVAAS student growth percentile tool, funded by School Aid Act and contracted for schools statewide through MDE, relies solely on MiDataHub to provide local district data needed to offer its service. Conversations are ongoing on leveraging MiDataHub to support state reporting on several initiatives such as the newly created MiSTEM, the Section 35a Additional Instructional Time grants, pupil accounting, and testing is underway for school fall, winter, and spring State reporting using MiDataHub. In each of these cases, schools and MDE currently use a variety of tools to complete these tasks, resulting in duplicate development and support efforts, delays, and at times data accuracy issues. Leveraging MiDataHub, 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. As discussed in other sections of this report, the MiRead literacy application is in use in nearly 100 Michigan school districts. By the fall of 2020, it is expected that the number will double to over 200 districts using MiRead as their common tool for managing the third-grade reading law. Without MiDataHub, schools would do as they have in the first three years of the law, they would create paper forms, duplicate processes and focus nearly all their efforts on compliance. With MiRead, the process is faster, more effective, more integrated into daily learning and includes students and parents actively in the reading improvement process. MiRead is but one of many examples of new solutions that are being created collaboratively by the educational community for statewide use in a way that 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, is using the MiDataHub ecosystem to expand its offerings dramatically. Having successfully built tools that provide schools with engaging and effective tools for statewide mining data to examine and improve school process and budgeting, Eidex is now using MiDataHub to help schools look closely at local student and teacher data. Their new tool, Prism, is based completely on the use of data provided through MiDataHub. 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.

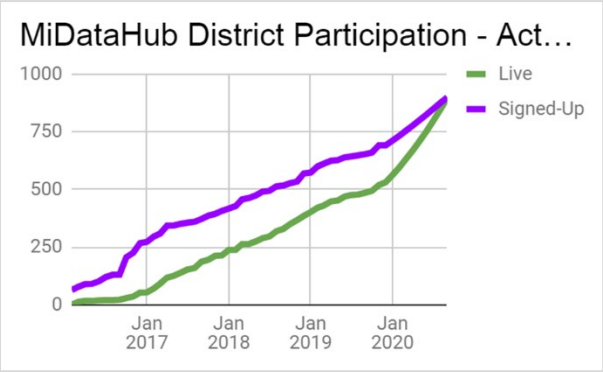
Based, in large part, on the success of MiDataHub in establishing data standards, CEPI is currently engaged in the modernization of its internal data systems and structures. This modernization includes efforts to redesign the technical architecture of State data systems. This redesign is focused on adopting 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 begun discussion of and are in contract negotiations for the creation of 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 school improvement plan. Using data from MI School Data and MiDataHub, districts will be able to adjust and modify those plans going forward. This type of collaboration could not have occurred if it weren't for the standards-based environment led by MiDataHub and that state systems are quickly being aligned to.

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, 2020.



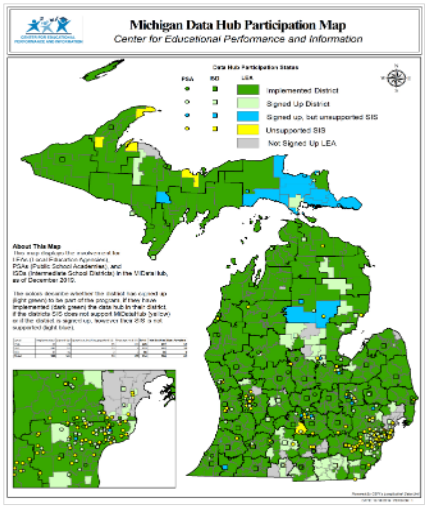
To date, more than 700 of the roughly 900 districts in Michigan have begun the process of adopting MiDataHub by either signing up for the project or fully connecting (live) at least their SIS to MiDataHub. The chart (left) shows the growth in the numbers of live districts and districts signed-up to date and projected through September 2020. As of the time, this was written, the number of live districts was 536, which is 151 districts more than the 385 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 2019-September 2019. While it is apparent that a lit bit of acceleration will be needed over the next nine months, the goal of 100% district adoption is within reach. While full adoption is within reach, there are still 16% of districts (4.5% of students) using an SIS that is not connected and numerous small independent charter schools that have proven challenging to engage. Thus, a full 100% adoption by all 894 districts may not be possible, though it always remains a goal.

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 66% of the ISDs and nearly 72% of the ISD students already live. The 541 LEAs have had the greatest rate of live adoption, with over 80% of districts and students live on the data hubs and over 94% that have expressed interest. We are continuing to expand our outreach to PSAs, as just over 50% of them have expressed interest, and only about 19% of the PSAs and 21% of 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%	37	66%	34,428	72%	46,549
541	LEA	510	94%	443	82%	1,077,578	81%	1,333,118
297	PSA	150	51%	56	19%	29,182	21%	140,683
894	**Total**	**716**	**80%**	**536**	**60%**	**1,141,188**	**75%**	**1,520,350**

To date, 100% of 606 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, 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. Recent events in the Bay-Arenac and Iosco areas have helped to fill in substantial sections of the map. Similar efforts will be scheduled in our regions throughout 2020 to continue to close those gaps. These professional development (PD) events are typically the first step in the onboarding process.

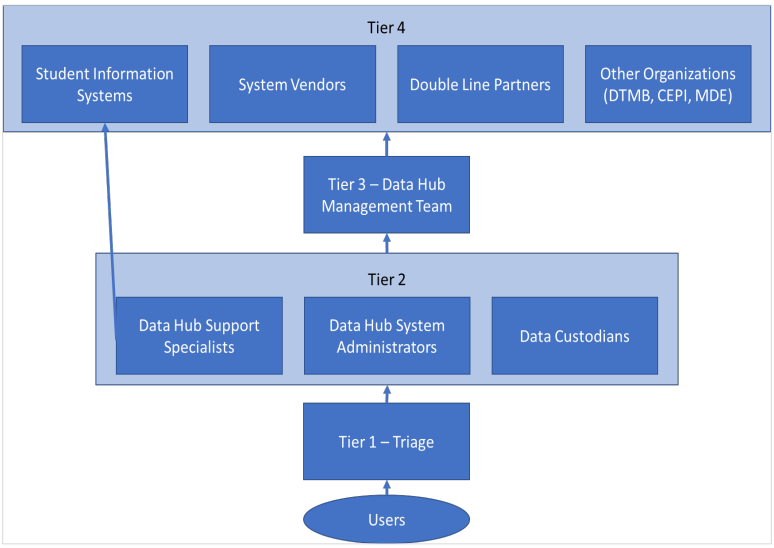
EDUPATHS

The MiDataHub team has worked closely with the development team at EduPaths to create modular trainings to build the capacity of staff throughout Michigan on functionality within MiDataHub such as navigation, managing users, interpreting reports, creating integrations with vendors, dashboards, and other functionality the data hubs provide a district. We are 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 available to ALL Michigan Educators and staff. EduPaths courses are designed to expand understanding on a wide variety of topics and help educators share best practices. These MiDataHub courses are available online, free, and are completely self-paced and intended to help educators personalize their learning plans anytime and anywhere. There is strong potential to build an SSO integration with EduPaths which would allow districts an SSO process for easier access to the tool.

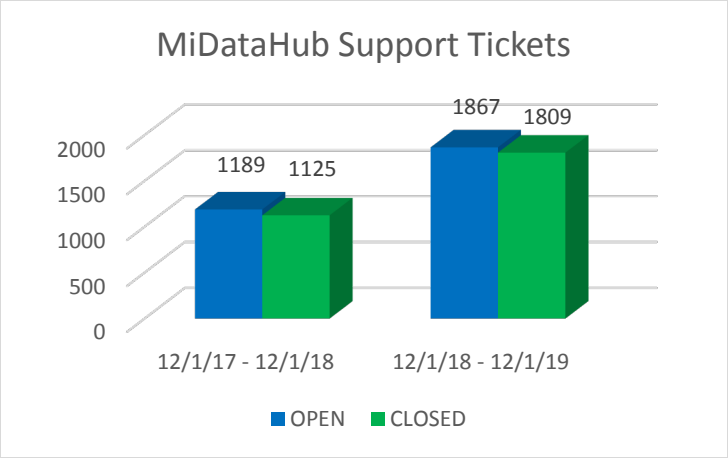
MIDATAHUB HELPDESK

During Fall 2017, The MiDataHub leadership team fully implemented Solarwinds helpdesk and a tiered model of support to accommodate the growing implementation effort across the state. This support structure was implemented to ensure users of MiDataHub can submit support requests, development ideas, and other inquiries directly to our internal team to triage, intervene, resolve, or link in others as appropriate. Requests are submitted by sending an email to support@midatahub.org. Upon submission of the email, a ticket is generated and based on the request is assigned as appropriate to the Data Hub Support staff or others. The chart below depicts our tiered model of support which includes a 4-tiered model:



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 are captured below, depicting total ticket counts of open and closed tickets from December 2017 – December 2019. There was an increase of open tickets from 2018 – 2019 of 57%. The number of closed tickets increased by 61%. These ticket numbers represent a significant increase in usage of MiDataHub, as well as improvement in resolving tickets promptly.



PROFESSIONAL DEVELOPMENT

In the 12 months since the last report, the MiDataHub team has completed 140 PD events to a total of nearly 3,948 educators. This far exceeds the goal of 12 events for the year. The number of sessions, most scheduled at the request of districts and ISDs, and level of participation are indicative of the growing interest and participation with MiDataHub, highlighting its value to schools and the State. Onboarding events are generally regional sessions for an ISD or group of ISDs to assist districts from the region in the process of connecting their data systems to MiDataHub. During the initial three months of the current grant period, the MiDataHub team has completed four regional onboarding events. Onboarding events are technical assistance PD sessions where MiDataHub staff work directly with ISD and district staff to establish automated connections from their data systems to MiDataHub. With a goal of ten for the year, and many already scheduled in the new year, this effort is well ahead of schedule.

> *"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

In addition to the MiDataHub staff, MiDataHub also works collaboratively with ISDs, LEA's, and other organizations to establish regional support for schools providing instructional services to students (LEA, ISD, PSA). These staff, referred to as Data Hub Support Specialists (DHSS), offer local knowledge about; the systems local schools use, their data policies and practices, and collaboration within their support network on the functional use and benefits MiDataHub provides. A portion of the current MiDataHub budget is allocated for reimbursement back to the providing organization for the time DHSS spend supporting their districts with onboarding, ongoing support, testing/piloting of new third-party integrations (this includes the State of Michigan and CEPI), and connectivity of current and future initiatives. This group provides additional support beyond the Data Hub team expands the capacity of the statewide MiDataHub support network from six people to 53. To support this statewide staffing

model, the Data Hub Leadership team provides monthly workgroup meetings facilitated by the Data Hub leadership team. The purpose of these meetings with the Data Hub Support Specialist network is to encourage collaboration and sharing of best practices. During these meetings, topics discussed include new functionality within MiDataHub, upcoming and current integration efforts, solutions to common onboarding challenges, and ensuring continued district adoption of the tools available for school districts upon being integrated. The attendees of the monthly Operations Workgroup include DHSSs, the MDE staff, CEPI, Double Line Partners, and others.

In addition to the monthly Operations Workgroup meetings, there are monthly meetings or workgroup calls that are Student Information focused and open for not just Data Hub Support leadership but also local district experts. The meetings with this team are 30-minute-long virtual sessions, meeting every other week with the connected SIS vendors. The focus of the SIS Vendor meetings is to provide an opportunity for SIS vendors to address any questions from the field and provide updates on upcoming functionality and bug fixes. Also, a current listing of these specialists is maintained on the MiDataHub website or by clicking the following link:https://www.midatahub.org/support/data-hub-support-specialist/ website. For a listing of DHSS team members by name and location, please refer to Appendix E at the end of this document.

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. 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 Spring of 2018.

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.

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.

The recent addition of the ability to track changes to settings in the MiDataHub Cockpit provides an additional layer of security in the system. With this feature, districts will be able to review when connections were initiated when settings are changed and who took those actions. In addition to the ability to review logs of actions taken, the cockpit application now provides alert functionality so that districts will receive email notifications when certain actions are taken.

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.

LEGISLATIVE GOAL 8F

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

As the data quality and availability improve through the streamlined integration of systems, the capability to use that data in an actionable manner to support teaching and learning dramatically expands. 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 the DataHub 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.

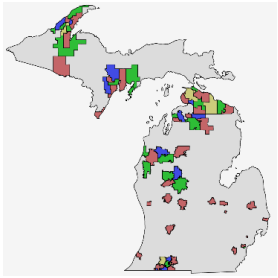
This group has set and begun focused work on four primary statewide priorities:

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)**.
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:

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 250 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 will be reviewing and expanding that inventory in the coming months to prepare for the launch of the MICIP platform in the fall of 2020.

Early Childhood Integrations include work with John's Hopkins on developing initial integrations with Michigan's Kindergarten Readiness Assessment (KRA), which will be used by 100% of Michigan school districts in the fall of 2020. KRA launched its initial integrations in the summer of 2019, is working on improving the integration to ensure accurate rosters are imported, will be sending results back to MiDataHub in the coming weeks, and has begun work on integrating with the MiLaunchPad SSO for 2020. 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.

MiMTSS - Working in partnership with the MDE and Michigan's Integrated Behavior and Learning Support Initiative (MiBLISI), MiDataHub will play a key role in the development of MDEs new MiMTSS (Michigan's Multi-Tiered System of Support) online portal. The MiMTSS portal is being built as a redesign and major update of MiBLISI's MiData tool. Over the past ten years, MiBLISI has been providing support to hundreds of Michigan schools in its role as a third-party technical assistance arm of MDE. Built with a deep foundation of research, MiData assists schools with efforts to use data and plan for system and student supports based on data. The tool also helps schools manage the implementation of research-based initiatives with fidelity. Working with MIDataHub as its primary source of data, the MiMTSS tool will provide schools with quick, easy, and reliable access to data critical to the MTSS process. In doing so, the MiDataHub integration will save schools and districts dozens if not hundreds of hours each. This time can be better applied to the analysis of the data and the development and implementation of efforts to improve school processes and student outcomes.

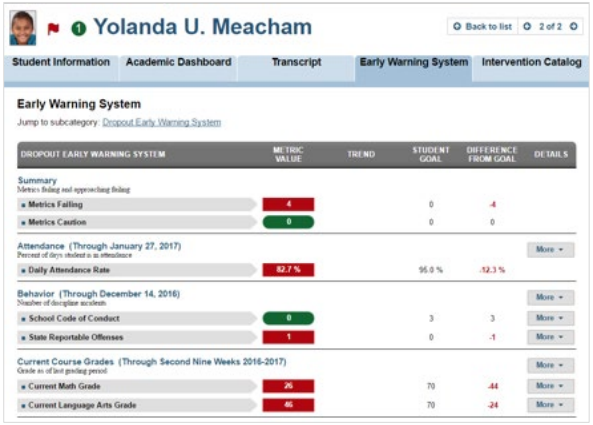
MI School Data Redesign - This year, the MiDataHub joined in the work of MI School Data. With funding provided by CEPI, and in partnership with the Macomb and Shiawassee ISDs, MiDataHub hired a MI School Data Redesign Coordinator. The Coordinator, Tim Davis, has over 25 years' experience in educational data and technology systems and, in his prior role at Charlevoix Emmet ISD, was a MI School Data regional trainer. Initial work on this project revolves around managing the RFP process and vendor selection. In the coming month, Tim will coordinate focus groups, design efforts, and project management in the redesign of MI School Data. This work will include a focus on integrating this effort with MiDataHub so that local data can augment the state-level data currently used and accessed through the system. The potential access to data and streamlining of processes by combining the efforts of these two statewide initiatives will enhance the experience of educators and the public.

Competency-Based Education (CBE) – MiDataHub is working in this emerging space as well. Three years ago, CBE structures were built into the MiDataHub design. This allows MiDataHub to record and move data for things like electronic badges and certifications linked to both students and educators. Current efforts include collaborations with the districts awarded with Competency-Based Education grants as well as with international partner IMS Global. How this work evolves is yet to be determined; however, MiDataHub has integrated the standards for holding and transporting this data and has Michigan ready

to embrace whatever solutions emerge as the most effective for students, schools and employers in the next few years.

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. One use of the tool would be to distribute a query to districts to answer a legislative data need. Some specific reports that are already in the system include data quality reports, data hub usage statistics, CEPI MSDS reports, and data validation reports. CEPI has expressed an interest in creating reports, such as a chronic absenteeism report and distributing it via MiDataHub for districts to utilize.

M-STEP assessment results are now flowing from MDE into MiDataHub and the MiDataHub Dashboards. These integrations bring timely, automated access to these data sets for exchange with other systems. One particular benefit of the flow of this data rests in the MiDataHub integration, which not only provides schools with results for students that were tested but also for those new students that enroll from other districts. By providing schools with student assessment data upon enrollment, MiDataHub is arming educators with critical information about student academic performance within a day of enrollment, removing the costly delays to this data that existed before the existence of MiDataHub.



EWIMS -MiDataHub has implemented the Ed-Fi dashboards, including an early warning system (EWS) dashboard (left). Building on the EWS and intervention catalog, EWIMS is a process to use EWS data to identify students at risk of dropping out, assign appropriate interventions, and monitor student progress over time. As of this report, 438 districts have dashboards in place, a 30% increase from a year ago. Work has just begun on the development of **MiEWIMS**, a comprehensive, self-contained tool that will greatly enhance the ability of schools to implement EWIMS in schools.

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 are populating new dashboards and are in full use in the MiRead application, assisting teachers in planning for individualized improvement plans for students.

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 the Michigan DataHub MiLearn is an MDE initiative that has grown to include 142 districts across four SIS currently. 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 the local school district parent portal without 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.

> 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: Schools face 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

- 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 Snackpack service has achieved some impressive statistics. A total of 74 districts have opted into using the service since Fall 2019. The Snackpack has been called 21,600 times (including pilot district usage) in production. In the last two weeks alone, 47 districts accessed the service for a total of 6,200 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, and Support Manager, who are responsible for carrying out the various aspects of MiDataHub work.

A leadership team comprised of the Director of CEPI, the Assistant Director of CEPI, 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. Five ISDs 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 48 DHSS's 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 opens up 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 MDE 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, each of which schools are currently required to use separately, with one system, MiCIP (Michigan's Continuous Improvement Process system), is an effort to dramatically streamline these required data gathering, reporting, planning, and grant application process. The time savings for schools and the department will be tremendous 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, integrate those goals across their systems, budgets, and processes 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 and that their local data is 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, based on their local data, and 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.

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 Early Childhood Collection	MSDS TSDL Collection
Federal Civil Rights Data Collection (CRDC) Reporting	MDE's MiLearn	Eidex's Prism Application
MiStrategyBank	MiLaunchPad SSO	Talent Transcript
SAS EVAAS SGP Tool	Green Pupil Accounting	Section 31a Reporting
Student Growth Percentiles	Early Childhood Reporting	EduPaths Online PD System
Michigan Virtual	MDE's MiMTSS Tool	#GoOpen
MDE's EWIMS Process	Section 35a Reporting	Kindergarten Readiness
Competency-Based Education	MDE's MICIP	MIBLSI's MiEWIMS
CEPI's MiSchoolData (in MICIP)	UofM 3rd grade reading research	Xello SSO user access
KRA rosters, reporting, and SSO		

Section 22M MiDataHub

Legislative Report Conclusions

January 2020

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 82% and overall adoption near 60% (see chart page 19), ROI is exceeding $25,000,000 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. Recent work by EUP ISD to connect the Illuminate SIS has helped to enable more districts to connect even while they explore new systems for future school years. 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, 2020.

The goal is on target to be met with current rates predicting 100% adoption by September 2020. 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.

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. Steps continue to be taken to ensure system integrity, with an audit of development policies from VDA Labs conducted during the year. The system, agreements and processes have been designed for security and local control based on best practices statewide.

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.

The goal is on schedule to be met. Legal agreements, structure, staffing, and governance models continue to evolve in planning. The emerging development of MiCloud, a statewide collaboration to develop and manage shared educational cloud server, storage, and application hosting, is underway. MiDataHub servers are scheduled to be migrated into this low-cost/high-reliability environment in the next six months. Streamlining and securing infrastructure supports the long-range sustainability of MiDataHub.

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. Some examples include Section 35a, At-Risk, count day, and civil rights data collections, green pupil accounting, school improvement, comprehensive needs assessment, student growth percentiles, and federal title funding grant application and management systems, etc.

Conclusion

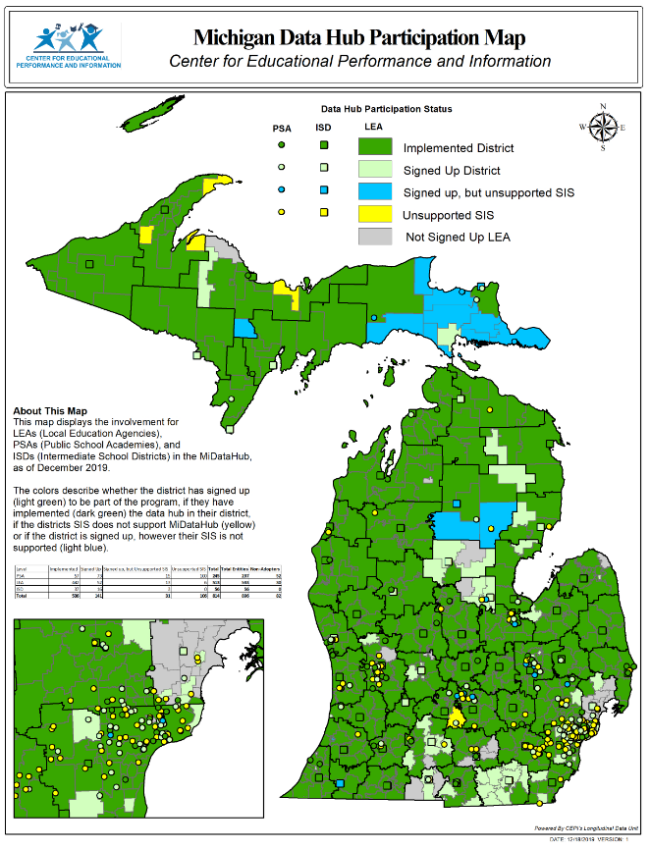
The MiDataHub project is exceeding expectations. With the return on legislative investment over 1000%, based only on the value of integrations alone over, the net savings to the educational community for this year is estimated at over $25,000,000 for school districts. Currently, this equates to $11.36 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

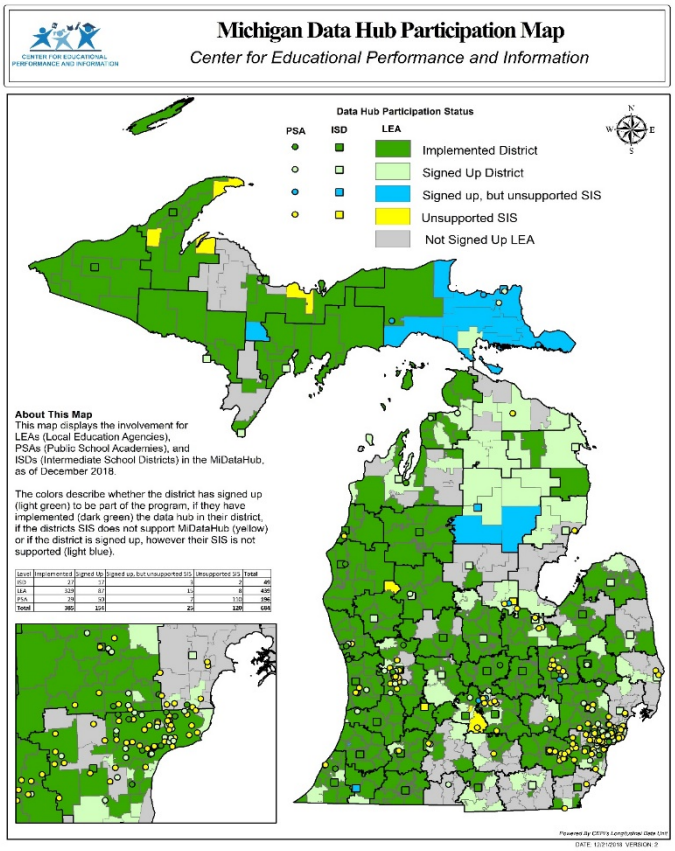
Appendix A

MIDATAHUB ADOPTION MAP

January 1, 2020



January 1, 2019



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	2018-19 Integration Status	2019-20 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 testing.	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 still in process.	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.	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
CEPI EEM Integration	School Data	Certified and in production	Certified and in production	100% of districts

MiDataHub Integration Inventory

System	Type	2018-19 Integration Status	2019-20 Integration Status	Potential Impact
CEPI Snackpack	Portable Records		In production for MISTAR SIS, with others in development.	100% of districts
CEPI UIC Integration	Identity	Certified in PowerSchool, MiStar, and Skyward tools. In Development with Edupoint Synergy and Infinite Campus.	Certified in Infinite Campus, PowerSchool, MiStar, 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.	Unknown
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	Ed-Fi v2.0 in production	Upgraded to Ed-Fi 2.4	100% of districts
Ed-Fi Dashboards	Dashboard	In production	In production – receives all data and writes back intervention data.	100% of districts
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.	Certified- Pulling multiple years of data via the API. Focus and Prism products.	60% of districts per vendor-provided numbers
Follett Destiny	Library Management System	Testing OneRoster API Integration.	Testing OneRoster API Integration.	35% of districts.

MiDataHub Integration Inventory

System	Type	2018-19 Integration Status	2019-20 Integration Status	Potential Impact
HMH – Ed: Your Friend in Learning	Educational Application		In production - OneRoster API Integration.	Unknown
HMH – ThinkCentral	Educational Application		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.	100% of districts
McGraw-Hill Wonders	Educational Application		Production rostering from OneRoster API.	Unknown
MealMagic	Food Service System	Certified and in production.	Certified and in production.	At least 40% of districts
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). The remaining three are in development.	Production of sync authentication, roster, and student-parent relationship data certified. MiLearn functionality is available in 2 of 5 SIS tools (PowerSchool and MiStar). Remaining three are in development.	100% of districts
MDE M-STEP	Assessment	Certified	Certified	100% of districts
MDE WIDA	Assessment	In development.	In development.	100% of districts

MiDataHub Integration Inventory

System	Type	2018-19 Integration Status	2019-20 Integration Status	Potential Impact
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	SIS	Certified API Integration. Testing - State Reporting certification	Certified API Integration. Testing - State Reporting certification	100% of districts
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 development.	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

MiDataHub Integration Inventory

System	Type	2018-19 Integration Status	2019-20 Integration Status	Potential Impact
SunGard/ PowerSchool eSchoolPlus	SIS	Ed-Fi XML integrated. Testing - State Reporting certification	Ed-Fi XML integrated. Testing - State Reporting certification	3% of districts
USA Scheduler	Student Master Schedule Application	Certified - Full API roster integration. Planned - sending back schedules for the next school year.	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
Mtrax SSO	One of the applications that have leveraged MiDataHub SSO and launchpad is Mtrax. Any user who uses the same email address for Mtrax as they do in MiDataHub can access Mtrax from the launchpad without logging in a separate time.	District technology staff who use Mtrax
Manage Users	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

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
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
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

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
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
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

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
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
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 Snackpack	This Portable Records (Snackpack) 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.

Appendix D

MIDATAHUB ACTIONABLE DATA FEATURES AND INITIATIVES

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Early Childhood Data Exchange	Integration of Child-Plus (SIS used by Head Start) and GSRP approved assessments TS-Gold and Highscope COR. Key to providing critical student developmental and academic data to schools to support the transition from pre-K to K-12. Greatly enhances 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
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

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
MiStudentData-Exchange	Developing and intermediate level database that is fed from district DataHub databases to facilitate the creation of common applications and sharing of student data across districts. In the example of the new MiRead tool, schools will opt-in to the system. Once connected, only the data needed for the IRIP will be transferred to the MiStudentData-Exchange. There, data can be accessed to operate MiRead and other similar tools. Data will then 'belong to the student' and follow them when they change districts immediately upon enrollment. Other examples include the Electronic Student Record Exchange and the Talent Transcript.	100% of districts
Student Record Exchange - Electronic CA60	Today, when a student moves between districts, a paper copy of their official student record follows them. However, the delay in requesting these records generally ranges from a week to six months. The electronic CA60, or Student Record Exchange (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
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

MiDataHub Support Specialist Network

Name	Student Information System	District/Area	Region
Anne Schimelpfenig	MISTAR	Wayne/Livingston	GMEC/KENT
Anthony Delling	Synergy	Genesee ISD	GMEC
Ashley Dunford	MISTAR	Wayne/Livingston	GMEC/KENT
Brian Kobliska	PowerSchool	Ingham ISD	GMEC
Bryan Smith	PowerSchool, Skyward	Ingham ISD	GMEC
Chris Barnwood	PowerSchool, Infinite Campus, Synergy	Kent ISD	Kent
Christian Anderson	PowerSchool	Wayne/Clinton/Oakland/ Ingham	GMEC
Dona Johnson	PowerSchool	Wexford-Missaukee/West Shore/Manistee	IMC
Doug Jarvi	PowerSchool	Gogebic Ontonagon ISD	RNM
Doug Metcalf	MISTAR	Oakland Schools	GMEC
Garrett Burgett	PowerSchool	Kent ISD	Kent
Greg Shepard	PowerSchool, Infinite Campus	Ottawa/Muskegon	Kent
Jamie Jarvi	PowerSchool	REMC 1/Copper Country ISD	RNM
Janell Craig	MISTAR	Oakland Schools	GMEC
Jeff Kamaloski	PowerSchool	Wexford-Missaukee/West Shore/Manistee	IMC
John Londono	PowerSchool	St. Joe County ISD	SWMI
Joseph Miller	PowerSchool	Washtenaw ISD	Kent
Josh Hiner	PowerSchool	Copper Country ISD	RNM
Julie Martin	Synergy	Genesee ISD	GMEC
Kevin Hoornstra	PowerSchool	Ingham ISD	GMEC
Laura Caballero	Infinite Campus	Genesee ISD	GMEC
LeAnn Szymanski	Infinite Campus	Muskegon/Ottawa	Kent
Lisa Sutphen	PowerSchool	Shiawassee/Clinton/ Wayne	GMEC
Lisa Thorne	PowerSchool	Allegan/Barry/Van Buren/Hillsdale	GMEC/SWMI

Loretta LeCount	PowerSchool	Berrien	SWMI
Lukas Enciso	PowerSchool	Allegan/Barry/Lewis Cass/Van Buren	SWMI
Mark Nordin	PowerSchool	Copper Country ISD	RNM
Mark Wiegerink	Infinite Campus	Ottawa	Kent
Matt Molloseau	Infinite Campus	Genesee ISD	GMEC
Melisa Swoish	Skyward	Tuscola/Sanilac	GMEC
Melissa Tront	PowerSchool	St. Joe County ISD	SWMI
Michelle Dowdall	Synergy	Genesee ISD	GMEC
Mike Richardson	PowerSchool/Skyward	REMC 1	RNM
Nick Morse	PowerSchool	Kent ISD	Kent
Paul Cameron	PowerSchool	Wayne/Clinton/Oakland /Ingham	GMEC
Peter Nethercott	PowerSchool	Kent ISD	Kent
Robert Kaminski	MISTAR	Wayne RESA	GMEC
Ryan Liskiewicz	PowerSchool	Washtenaw	Kent
Sally Riffle	PowerSchool	Wexford-Missaukee/West Shore/Manistee	IMC
Sally Whitcomb	eSchoolPlus	Lenawee/Monroe	Kent
Stephanie Abata	PowerSchool	Marquette-Alger	RNM
Stephanie Gabriel	PowerSchool	Washtenaw ISD	Kent
Suzanne Braun	eSchool	Lenawee ISD	Kent
Ted Belej	PowerSchool	Copper Country ISD/Gogebic-Ontonagon	RNM
Tera Kelpinski	Skyward	Saginaw ISD	GMEC
Tony Howard	Synergy	Genesee ISD	GEMC
Will Nankervis	PowerSchool	Copper Country ISD	RNM

MiDataHub Staff

Name	Title	Role
Windee Wagner	Help Desk Support Specialist	Tier I & II helpdesk, website, documentation, training
Kevin Bullard	Support Manager	Oversee helpdesk, DHSS network, SIS relations and semi-weekly webinars, Tier I, II, III support, training, onboarding support, strategic planning
Dirk Bradley	Operations Manager	Tier III, IV support, Infrastructure design, development, support and maintenance, system development, code support and enhancements, security, testing, and deployment
Tim Davis	District/Vendor Relations Manager	District relations, Vendor relations, evaluation, engagement, recruitment, support, and strategic planning
Tom Johnson	Actionable Data Manager	Instructional priorities development, actionable data advisory, grants, strategic partnership development, data leadership team, outreach, training, public relations, strategic and sustainability planning,
Don Dailey	Project Director	Project and staff oversight, data integration advisory, systems development, data leadership team, systems design and testing, Tier II, IV support, development partnerships, strategic partnerships, CEPI / MDE relations, infrastructure design and development, budget development and oversight, contracts, strategic and sustainability planning

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
Minecraft, section 64d	Developing single-sign-on and license deployment for 175,000 Microsoft licenses for Minecraft.	15% of students

Appendix G

MIDATAHUB ADVISORIES

MiDataHub Actionable Data Advisory

Name	District	Title
Tim Davis	Kalamazoo RESA	Mi School Data Redesign Coordinator
Frank Holes	Allegan AESA	Data & Improvement Specialist
Mitch Fowler	Battle Creek Public School	Administrative Director, Data / Innovation
Mike McGroarty	CEPI	Longitudinal Data Manager
Trina Anderson	CEPI	Assistant Director
Tammy Hereau	Delta Schoolcraft ISD	Gen Ed/School Improvement/Data
Marianna Ripple	EUPISD	Data / Instructional Technologist
Susan Brummel	Kent ISD	School Improvement Consultant
Stan Masters	Lenawee ISD	Coordinator, Instructional Data
Kristi Martin	Macomb ISD	Director
Kaitlin Ferrick	MDE - HeadStart	Director
Michelle Ribant	MDE, P20 Data Office	Assistant Director
Dave Cairy	Michigan Collaboration Hub	Director
Tonya Harrison	MOISD	Director of General Education
Heidi Kattula	East Grand Rapids Public	Superintendent
Joyce Sackleh	Oakland Schools	Director of Applications
Andrew Henry	Red Cedar Solutions	President
Kathy Miller	Shiawassee RESD	Executive Director, Instructional Services
Melissa Tront	St Joseph County ISD	Database Administrator
Diane Talo	St. Joseph ISD	Director of Instructional Leadership
Cindy Taraskiewicz	Wayne RESA	MTSS Coordinator
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
Lisa Zettle	Bay-Arenac ISD	Application/Data Support Specialist
Tom Howell	CEPI	Director
Trina Anderson	CEPI	Assistant Director
Doug Jarvi	Copper Country ISD	System Engineer
Jason Kronemeyer	EUPISD	Director of Technology
Bryan Smith	Ingham ISD	Sr. Systems and Development Analyst
Glen Finkle	Kent ISD	Director of Technology
Tina Tribu	Kalamazoo RESA	Instructional Technologist/Data 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 Snackpack 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."