Appendix B – Scope of Work and Technical Requirements

1 Introduction

1.1 Intent of this Request for Proposal

The Delaware Department of Education (DDOE or State) seeks professional services from a qualified firm to obtain a statewide, comprehensive, fully integrated, mature Student Information System (SIS) and an Individualized Educational Plan (IEP) solution. A qualified firm is defined as a Vendor with experience in statewide SIS and IEP implementations. A mature system is defined as a currently developed system that has been operational for a minimum of ten (10) years. DDOE is seeking a Vendor that can provide both solutions (SIS and IEP) and support data integrations between the two solutions. This proposal requires Vendors to submit their project plan, philosophy, and technical ability to meet DDOE's requirements for all areas regarding both functional and technical requirements.

This document provides potential respondents with the information and guidelines necessary for developing their proposals.

2 Project Overview

2.1 Background

The Delaware public school system is comprised of approximately 19,000+ educators, administrators and support staff, 145,000+ students across 19 school districts, 25 charters, 250 schools, and multiple state agency sites commonly referred to as Local Educational Agencies (LEAs). The current SIS and IEP System provides core functionality and reporting and has been customized throughout the years to meet the needs of DDOE and our LEA customers. The SIS must be able to provide functionality to conduct day-to-day educational operations at the classroom, school, district, and state level.

2.2 System Objectives

Technology Requirements
The SIS and IEP System is required to be an existing, mature, fully integrated software system and Vendors are asked to submit only if they can provide both solutions (SIS and IEP) and support data integrations between the two solutions. DDOE expects to consider only providers that demonstrate forward-thinking solutions that will sustain DDOE into the future and one that maximizes 'off the shelf' functionality and features in a scalable, flexible, and distributed delivery model.

Reliability and Ease of Use
The SIS and IEP System must be reliable, highly available, and easy to use. The application must focus on efficient management of application data integration and allow LEA self-service features to reduce the administrative burden and minimizes the need for help desk support.

User Population
The SIS and IEP System must support all users and roles, including DDOE staff and LEA staff. The system must be flexible enough to accommodate future population groups and roles as they are identified.

Interoperability, Data Flow Architecture, Data Integrations, & Data Entry
The SIS and IEP System must utilize open interoperability standards provided by 1EdTech, the Ed-Fi Alliance, and Common Education Data Standards. The solution must incorporate data integrations with state and LEA systems and external Vendors and include a data entry solution.

Shared Controls
The SIS and IEP System must support granular level access.

Single Sign-On (SSO)
The SIS and IEP System must have native and true authentication with DDOE's SSO provider (ClassLink).

Accessibility
Any electronic or information technology purchased by or developed for or on behalf of the DDOE must meet the standards of Section 508 of the Rehabilitation Act of 1973, which includes the Web Content Accessibility Guidelines 2.0 (WCAG 2.0). DDOE reserves the right to audit the work product at any time for accessibility compliance, and any issues found will be the responsibility of the Vendor to remediate. Information about Section 508 is available from the GSA (https://www.section508.gov). Information about WCAG 2.0 is available at the W3C website. (https://www.w3.org/TR/WCAG/)

2.3 Technical Environment

This section describes the technical standards of DDOE as well as the hardware and software environment in which the SIS and IEP System must operate.

The State of Delaware K-12 Public Education technology environment is engineered and managed in a shared model cooperatively between the Department of Technology (DTI), Department of Education (DDOE), and the individual Districts and Charters. The core network is engineered and administered by DTI; from upstream ISP uplinks, datacenter core network, e-rate eligible WAN connectivity, all the way down to the switch port.

The K-12 network serves around 300 sites. Each site is connected to the two state data center locations via private TLS circuits in a hub/spoke model. Diverse Internet uplinks are located in the central datacenter locations. Remote sites access the internet through these central ISP uplinks with per district public IP addressing available for allocation. Current K-12 internet usage is approximately 30 gigs for the environment, with the expectation that this will grow.

Most upper-level schools such as high schools and middle schools are connected to the education network via 1 GB connections. In many cases these connections

run at 70-80%utilization during the day, due to educational and business traffic. Many elementary schools and charter schools are connected via 100Mb TLS circuits that are often at 50% or more utilization.

State of Delaware K-12 community will access the SIS and IEP system from a shared network and accommodation will need to be made to allowed State of Delaware IP address space.

While DTI runs the core network and WAN/L2 Switching infrastructure, wireless infrastructure is implemented and managed by the individual districts/charters independently from DTI.

DTI runs a central Active Directory Forest with widespread adoption by the community, however, there are a small number of districts and charters that have opted to not participate in the K-12 AD. Even with this widespread use and adoption, there are some participating districts that have also opted to use other 3rd party platforms for authentication of students, faculty, or both (e.g., Google authentication). User accounts are administered by each district and charter.

The Delaware Department of Education and K-12 districts and charter schools authenticate via ClassLink for educators and staff. ClassLink is our K-12 state-wide Single Sign-on (SSO) solution. Districts and charter schools may authenticate via ClassLink for students but may use other authentication and Single Sign-On methods as well.

The Delaware K-12 environment is device agnostic. Districts and Charter schools support Microsoft, Google, and Apple platforms including mobile devices and Chromebooks.

To best integrate with DDOE's existing application environment and skills of existing personnel, the proposed solution's RDBMS must be Microsoft SQL Server, and the minimum required version should be SQL Server 2017.

The table below identifies the primary tools and technologies used by DDOE:

Relational Database	SQL Server 2017
Reporting Service	SQL Server 2017 Reporting Service
Data Warehouse	SQL Server 2017 Analysis Service
ETL Tool	SQL Server 2017 Integration Service
Server Operating Systems	Windows Server 2019 (2022 also supported)
VMWare	ESXi 7.0
Single Sign On	OAUTH2, OpenIDC, SAML 2.0
Preferred Development Tools	Visual Studio 2019 Visual Studio Code
Source and Version Control	GitLab
Web Browser	Current Versions (Edge, Firefox, Safari, Chrome)
Office and Email Applications	Microsoft Office 2019/O365

The SIS and IEP System must be web based and be accessible for all users.

Any proposed solution must comply with DTI's Standards and Policies, for on-premises solutions, and their Cloud Services and State Data Usage policies, for cloud solutions, both can found at https://dti.delaware.gov/technology-services/standards-and-policies/.

3 Requirements and Scope of Work

This section of the RFP provides a description of DDOE's expectations for the work to be completed by the Vendor.

Required deliverables are identified in this section. If additional deliverables are produced as part of the Vendor's standard methodology, they should be identified and described in the appropriate section of the technical response.

Expectations for the content of the Vendor response to these requirements are described throughout this section. The format of that response is addressed in **Appendix A – Minimum Mandatory Submission Requirements.**

This section addresses several management and technical topics of importance to this project.

Within this section, the structure of each topic is the same, providing:

- The requirements to be met by the Vendor in the fulfillment of this project (including a list of expected deliverables and work products);
- Background information on any work completed to date by DDOE, and preferences of DDOE with regard to the nature of the work to be performed;
- A description of the information to be provided by the Vendor in their proposal.

3.1 Project Approach and Plan

The Vendor will be responsible for development, maintenance, support, and training of both the SIS and IEP System. The Vendor will be responsible for regular reporting of progress against the project plan, recommending corrective actions to be taken in the event of unanticipated changes to the plan or schedule, and regular updates to the plan and schedule to accommodate any changes.

To minimize cost and reduce risk, DDOE believes it is important for the successful Vendor to use their methodology, applying it to the particular needs of the State of Delaware. The "how" of the project should, therefore, be provided by the Vendor, using a proven methodology, approach, and work plan that the Vendor has used successfully in similar engagements. The proposal must include their responses to SIS and IEP system functionality, written deliverables, software deliverables and non-software deliverables.

Expected Deliverables and Work Products:

- Final Scope Document (D-Deliverable)
- Final Project Work Plan (D-Deliverable)
- Project Status Reports (W-Work Product)

- Workshop Summaries (W-Work Product)

Vendor Response

The technical proposal must describe the Vendor's philosophy, methodology, and approach to this project and to project management; describe the methods, tools, and techniques the Vendor intends to use in providing project management services; provide a description of key methods or techniques; provide a high-level project plan and schedule identifying major milestones and deliverables; describe the Vendor's approach to managing the schedule, controlling costs, mitigating risk, and limiting "scope expansion" to the project. The state expects both the project plan and the schedule to undergo significant refinement during the planning phase of the project. For each major milestone and deliverable, the Vendor shall identify the roles and responsibilities of Vendor and state staff in the completion of each deliverable.

The cost proposal must include the costs of any software licenses to meet the requirements of the RFP. DDOE reserves the right to purchase any commercially available software off existing state contracts if a cost savings can be realized.

3.2 Project Staffing and Qualifications

The Vendor is responsible for providing and maintaining enough qualified management, technical, functional, trainers, and help desk support staff to meet the needs of the project and the services outlined in the Vendor's response to this RFP. The Vendor is also responsible for development of a detailed resource plan for both Vendor and DDOE staff, which defines the staffing and staff organization, and identifies all team participants and their roles and responsibilities. The Vendor must identify key staff and will be required to commit these staff for the life of the project except for legitimate personal reasons, employment termination, acts of God or mutual agreement between DDOE and the Vendor. Any replacement of key staff should have skills and qualifications equal to or greater than the individual that departed. In any case, DDOE reserves the right to interview and agree or not agree on the replacement.

Based on prior experience with similar projects, DDOE has developed a staffing plan to support the project. DDOE is planning to provide a full-time project manager and product owner. These two positions will be responsible for coordination of DDOE resources, collaboration with Vendor project managers, communication with stake-holders, and ensure the vision of DDOE and project stakeholders is executed. In addition, DDOE is committing a percentage of the following resources to the project:

- Network Architect
- Database Administrator
- Help Desk Support Lead

DDOE has selected top managers from Delaware to serve as project sponsors who will provide regular oversight of project activities and who will coordinate activities and communications with LEAs.

DDOE has a strong preference for companies with previous experience with statewide implementations as well as an excellent understanding of their area(s) of responsibility. To obtain the best consulting team possible, DDOE is willing to be flexible in the staging of consulting assignments and will work to minimize the time between submission of proposals and start of the contract to ensure that the most qualified team available is assigned to the project.

Vendor Response

Vendors and their subcontractors shall describe the proposed management structure and identify key personnel who will be assigned to this project. Resumes for all key personnel shall be included along with three personal references. At a minimum key staff will include the Vendor Project Manager and Analysis Lead. Other key staff should be suggested by the Vendor, if appropriate.

Because project methodologies may differ, the proposal must outline DDOE staffing needs based on the Vendor's methodology and describe the recommended working and reporting relationships between DDOE and Vendor staff.

3.3 Knowledge Transfer

Knowledge transfer is a continuous process designed to enable DDOE to properly support the SIS and IEP System. The Vendor will be responsible for development of a knowledge transfer plan for the project team and DDOE help desk support staff. Through training, workshops and mentoring relationships, the Vendor will be responsible for documenting and educating the project team in the methodology and task plan to be used on the project, the architecture and design of the solution, and the skills and techniques needed for ongoing maintenance of the system.

Expected Deliverables and Work Products:

- Knowledge Transfer Plan (D)
- Plan Progress Documentation (W)

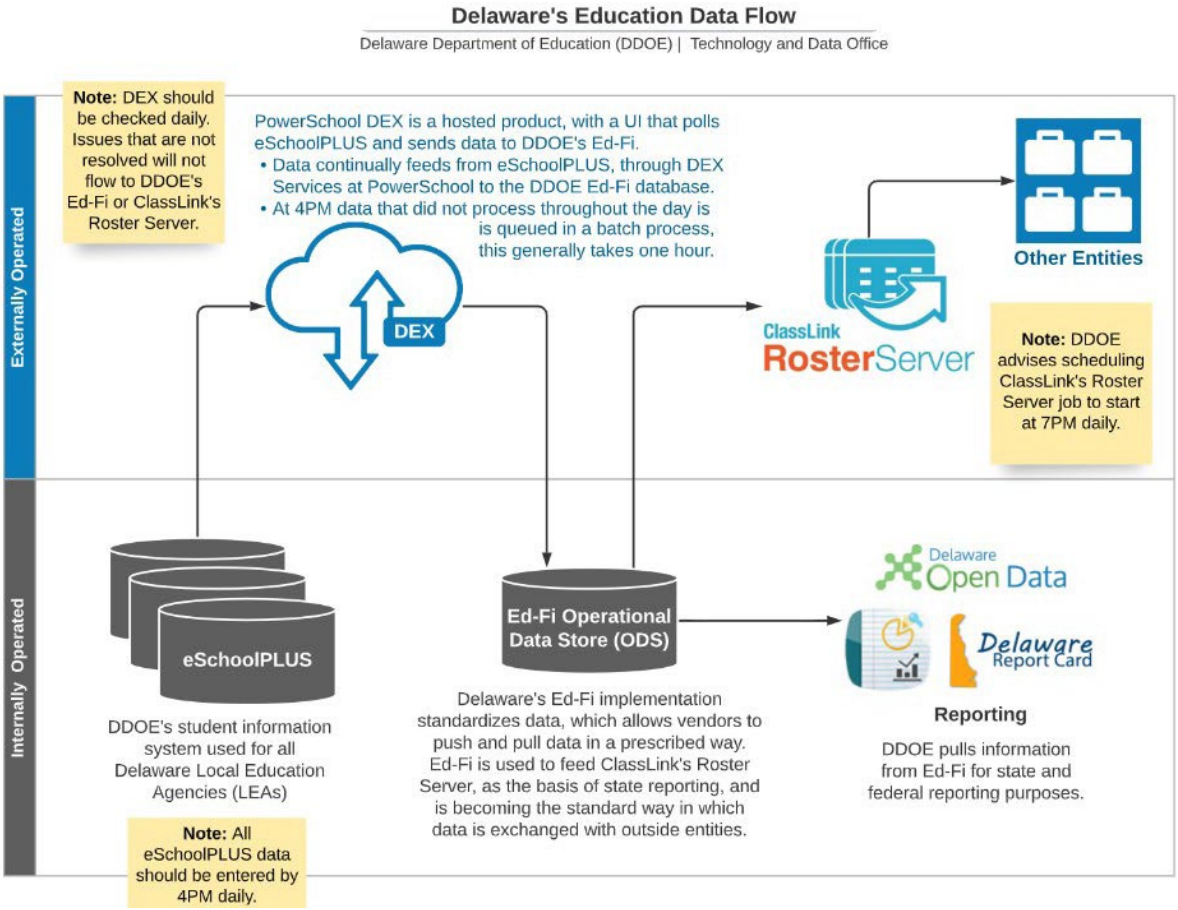
DDOE believes that knowledge transfer should be an integral part of the overall project plan that incorporates formal training, one-on-one coaching and directed work experience. The plan should identify the knowledge and skills team members need to acquire, the methods to be used to obtain these skills, and a mechanism for tracking progress.

Vendor Response

The technical proposal must describe the Vendor's knowledge transfer philosophy, the approach that will be used in the project, and provide a discussion of how this approach will ensure DDOE staff will be able to take ownership and continue the project through implementation. The project work plan must identify key milestones in the knowledge transfer process and identify major deliverables or work products of this process.

3.4 Interoperability Standards

The solution must incorporate data integrations with state and LEA systems and external Vendors and include a data entry solution. The Vendor must be an Ed-Fi Technology Partner, demonstrated by achieving badges or certifications where appropriate for both solutions. Review the architectural diagram of DDOE's current education data flow. Describe where and how the new SIS and IEP data will flow between both solutions and to DDOE. Describe your ability to bring a similar diagram to fruition, and include any unforeseen challenges, and/or suggest changes to the system architecture.



Expected Deliverables and Work Products:

- Data Flow diagram document (D)
- Proof of Applicable Certifications/Badges for Ed-Fi (W)

Vendor Response

The Vendor should provide proof of certification/badges to satisfy current and future requirements of DDOE.

3.5 Infrastructure & Technical Requirements

The current DDOE statewide SIS is on-premises, and the current DDOE statewide IEP is a cloud hosted solution. DDOE is open to a hybrid approach (a mix) of on-premises and cloud hosted solutions. Any proposed solution must comply with DTI's Standards and Policies, for on-premises solutions, and their Cloud Services and State Data Usage policies, for cloud solutions, both can found at https://dti.delaware.gov/technology-services/standards-and-policies/. A complete listing of DDOE's technical requirements can be found in the Technical Requirements document. Technical Requirements.docx A response is mandatory for all 66 items listed. The Vendor is to provide a network architecture design of their proposal with detailed reason explaining their proposal. DDOE encourages multiple options for consideration.

Expected Deliverable:

- Technical Requirements document (D)
- Network architecture design document (D)

Vendor Response

The technical proposal must include the Vendor's response to each item listed in the Technical Requirements document. The Vendor is to provide a network architectural design of their proposal with detailed reason explaining their proposal. DDOE encourages the Vendor to present multiple options for DDOE consideration.

3.6 Application and Data Migration

One risk to the project schedule and cost is the effort associated with migrating data from DDOE's current statewide SIS and IEP system to a new statewide SIS and IEP system, and training educational staff statewide on a new User Interface (UI). DDOE's current SIS has been in place for over 20 years. The Vendor must provide in detail how their proposal will manage a large-scale multi-year application and data migration project and handle training roughly 19,000 educational staff members statewide.

Expected Deliverables and Work Products:

- Application Migration Strategy (D)
- Application Migration Plan (D)
- Plan Progress Documentation (W)

Vendor Response

The technical proposal must describe how successful statewide SIS and IEP implementation projects have been accomplished in the past. The Vendor will provide an overview of the data migration process the Vendor envisions for

DDOE. The recommended approach must address how a shared responsibility for application and data migration might be structured for the duration of the project. Submit a fully detailed implementation and communication plan for the full scope of this project. The implementation and communication plan must include system build-out, technical training, professional development, coaching, levels of support during initial implementation, a description of ongoing support, and a detailed description of a tiered communication plan.

3.7 Reporting Capabilities

Real time viewing of data from the SIS is extremely important to LEAs. Utilizing software that has an in-depth reporting capability for both canned and ad-hoc reporting is required. DDOE's current SIS uses IBM's Cognos Analytics solution; comparable functionality must be included in the new system.

Expected Deliverable:

- Reporting Capabilities document (D)

Vendor Response

The technical proposal must describe the reporting and ad-hoc query functionality and capabilities for producing/publishing reports at the LEA level and discuss how new reporting requirements are created and implemented. In addition, the proposal must list what fields are and are not available in the reporting solution.

3.8 Integrations

DDOE's current SIS has multiple ways to integrate with external systems. LEAs purchase a wide variety of external systems (e.g., curriculum software, transportation routing software, nutritional accounting system, library system). DDOE finds tremendous value in LEAs being able to manage their own integrations quickly and efficiently.

Expected Deliverable:

- Integrations Design Document (D)

Vendor Response

The technical proposal must describe the available methods the system provides for application and data integration (e.g., APIs, import/export functionality, reporting and ad-hoc query functionality, or other system capabilities).

3.9 Interfaces

Delaware student enrollment history from 1985 to present is maintained through the DDOE web-based application Delaware Enrollment Student Information System (DELSIS). All Delaware students upon initial enrollment are assigned a unique student

identification number that follows them throughout their educational career in Delaware. DELSIS is dynamic for tracking enrollment changes, and the unique student identification number ensures unduplicated reporting of student data at the federal and state levels. The new SIS must interface with DELSIS. DDOE maintains DELSIS which creates and maintains a unique identifier (UID) for each student that is assigned to hem their entire educational career within the State of Delaware. The integration must check at the time of registration based on first name, last name, and date of birth if the student already has a valid UID. The interface must check if a child who is registering already exists. If yes, then use existing UID. If no, then assign a UID from DELSIS.

Expected Deliverable:

- Interface Design Document (D)

Vendor Response

The technical proposal must describe the Vendor's approach to interfacing with DDOE's DELSIS application and how it will prevent duplicate UIDs at the time of registration.

3.10 System Functionality Requirements

One risk to the project schedule is customization of software. DDOE seeks a solution that meets the needs of the State and LEAs with minimal customization. The SIS and IEP system must offer basic capabilities that meet the needs of LEAs and DDOE. A complete listing of basic functional requirements can be found in the System Functionality Requirements Excel Spreadsheet – First Tab labeled Functionality Requirements. System Functionality.xlsx

Expected Deliverable:

- System Functionality Requirements Excel Spreadsheet (D)

Vendor Response

The technical proposal must include the Vendor's response to each item listed in the Spreadsheet. The Vendor shall check one of six options and provide comments for all 828 items listed.

- **As Delivered** – Requirement is available out of the box with no configuration needed, at no additional cost to DDOE (provide comment)
- **Configurable by DDOE** – At no additional cost to DDOE (provide comment)
- **Configurable by Vendor** – At no additional cost to DDOE (provide comment)
- **Minor Customization** – Customizable by Vendor with Minor Customization, completion of work less than 6 weeks duration, performed by Vendor (provide comment)

- **Major Customization** – Customizable by Vendor with Major Customization, completion of work greater than 6 weeks but less than 6 months duration performed by Vendor (provide comment)
- **New development** – Development work performed by Vendor (provide comment)
- **Not Available** – Requirement is not available (provide comment)
- **Comment -** A comment is required for each item

3.11 Cost Proposal

DDOE is open to a variety of cost proposals to achieve best pricing. DDOE is open to a hybrid approach (a mix) of on-premises and cloud hosted solutions. DDOE is open to a flat fee 'not to exceed price' or a price per student cost module. Cost proposals must be all inclusive (project implementation, licensing, hosting, support, and maintenance).

Expected Deliverable:

- Cost Proposal document (D)

Vendor Response

The technical proposal must include the Vendor's cost pricing proposal that covers the entire period of the contract. The cost proposal shall include the costs necessary for the Vendor to fully comply with the contract terms and conditions and the RFP requirements. The Vendor must submit a payment plan for DDOE consideration.