SCOPE OF WORK

This section outlines our current view of the functional and technical requirements of the Data Sourcing Partner in working with each intermediary. However, we invite applicants to adjust these requirements and propose alternates as they see fit. We look forward to considering these alternate requirements in our evaluation of the concepts; our choice to make an open call for concepts was partly based on the need to explore alternate data sourcing methods to serve our NSI strategy. Note that the requirement labeled “Optional” (Data Reports and Visualizations) is one we believe would be useful, but is a second order requirement and previous experience in this area is not required.

Final deliverables will be based on the results of this engagement and articulated during the proposal development stage.

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<thead>
<tr>
<th>Deliverable Number</th>
<th>Deliverable</th>
<th>Required/Optional</th>
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<tr>
<td><strong>Project Management</strong></td>
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<tr>
<td>1.1</td>
<td>Project Plan Document</td>
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<td>Communication Model Document</td>
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<td><strong>Technical Assistance</strong></td>
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<td>Data Capacity Gap Analysis</td>
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<td>Testing, QA and QC Plan</td>
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<td><strong>Data Delivery</strong></td>
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<td>3.1</td>
<td>Annual Strategy Data Delivery Bundle[IV1]</td>
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Validation and Implementation Artifacts
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<th>Performance Appraisal Report</th>
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**Section 1. Project Management**

**Deliverable 1.1. Project Plan Documents**

These are formal, approved documents guiding project execution and project control for each NSI. These documents will detail project scope, costs, and schedule baselines.

Following the requirements gathering process, the DSP will create a project plan for foundation and evaluation partner engagement outlining:

- executive summary;
- quality management plan;
- milestones with dates;
- assumptions;
- risks;
- activities and resources required;
  - costs and personnel/FTE;
- responsibilities of those working on project.

This project plan is a living document to be updated throughout the project. The foundation and relevant stakeholders must all have access to the project plan.

**Deliverable 1.2. Communication Management Plan**

The organizational structure of the Networks for School Improvement will be complex, with multiple actors involved: the foundation, the formative and summative evaluators, the intermediaries, the districts in which the NSI schools reside, and the schools. Therefore, a clear communication management plan is necessary to plan, implement, monitor and revise all channels of communication.

Following conversations with the foundation, the intermediaries, and the evaluation partners, the DSP will create a communication management model for each intermediary:

- identifying each intermediary’s stakeholders;
• defining the collaboration among the DSP, the foundation, the intermediary, and the evaluation partners;
• identifying protocols for security updates and rapid response stakeholder notification;
• determining what information needs to be shared across all relevant parties;
• explaining in what format different pieces of information will be shared;
• codifying how often information will be shared;
  ○ including periodic status reports;
• detailing the organization and dissemination of new communication with all relevant parties;
• outlining who is responsible for transmitting what information;
• developing communication strategies;
• scenarios for risk communications;
• addressing the storage of information for posterity.

This document is a living document to be updated throughout the project. The foundation and relevant stakeholders must all have access to the communication management plan.

**Deliverable 1.3 Functional and Technical Requirements Documents**

Functional and technical requirements documents are required per structured data collection engagement per NSI. These documents will record both the functional steps and technical methods of data collection, integration, cleaning, submission, and provisioning as well as providing best practices for data sharing agreements. The DSP will not be giving legal advice.

These documents will be influenced by the systems involved, methods determined for effective data collection, and the technical assistance work described below.

**Section 2. Technical Assistance**

The role of the DSP is to deeply understand each intermediary’s data lifecycle (referenced below) and what gaps exist that may hinder completion of data sharing agreements, collection, integration, cleaning, and submission. The resolution of these gaps will be made in partnership with the intermediary and in accordance with supports provided by the formative evaluator and the foundation.

**Anticipated Flow of Data**

In the provision of services under this agreement, the DSP will work with multiple layers of organizations and data collection. While different NSIs will have different organizational relationships, respondents can generally assume that schools within the NSI will store and maintain data on student indicators in electronic, machine readable systems. We also anticipate that a school’s data will reside in centralized data applications managed by their Local Education Agency (LEA). These applications may reside on locally hosted servers, on the cloud, and/or in the hosting environment of contracted vendor partners.

When collecting functional requirements for the Big 3 Data, we expect the Data Sourcing Partner to also develop technical requirements which will define the databases, data collections,
and business rules for calculations needed for the required data. For schools in an individual LEA, these data may be housed in one or multiple systems, including an LEA’s student information systems, human resources systems, assessment system, and/or instructional management system. For NSIs which include schools in multiple LEAs, the data required from a school in one LEA may reside in a different combination of data applications for a school in another LEA.

These likely multiple layers of data flows to integrate the data required for submission by the DSP will necessitate technology solutions that facilitate data extraction, transformation, and loading (ETL) from a diverse set of source data applications for schools across NSIs and intermediaries into a common data repository housed at the DSP.

**Preference for Technical Solutions that Leverage Interoperability Standards**

Over the past years, buyers and sellers of education technology products have developed data standards to facilitate the exchange of data among a diverse set of source systems and integrated environments. Two prominent standards to emerge in the education technology market are those developed and coordinated by the IMS Global Learning Consortium (link) and the Ed-Fi Alliance (link). While designed for different data integration use cases, these standards aim to lower the cost of data collection and integration between source systems and enable the sharing and re-use of technical assets. The mature versions of the IMS Global and Ed-Fi standards also leverage Application Programming Interfaces (APIs) to facilitate the transportation of data between heterogeneous data applications and/or to and from Operational Data Stores.

Data integration among a broad spectrum of data applications will be central to the success of the Data Sourcing Partner. As such, the foundation is interested in supporting these interoperability standards in this solicitation to reduce cost, promote re-use, and facilitate the scaling of data integration procedures among intermediaries and with the field. **As such, the evaluation process for this solicitation will strongly preference respondents that propose data collection and integration solutions that leverage mature versions of the Ed-Fi and/or IMS Global interoperability standards, especially those that leverage the APIs built into these standards.** As stated previously, all technical solutions proposed to deliver the requirements of this solicitation must conform with foundation standards and all relevant state, federal and local laws to protect student data privacy.

In describing the technical architecture of data integration technologies you intend to use in your proposed solution, please describe how these standards are integrated within your solution as well as the relevant versions of the standards used in your application.
**Deliverable 2.1. Data Flow Document**

The DSP will be responsible for creating a data flow document for each intermediary and for the project overall. These models will clearly detail how data will flow from the systems and processes of schools, districts, and intermediaries, to the foundation and evaluation partners.

**Deliverable 2.2. Data Capacity Gap Analysis**

Each intermediary will have a data lifecycle (figure one above) with strengths and weaknesses. In addition to the data flow document, the DSP will analyze and document discovered gaps in data capacity and make recommendations on how to scaffold these gaps. This is necessary in ensuring that the capacity of NSI intermediaries match the data requirements.

Data capacity gap analysis can include:

- determining if the intermediary is collecting all relevant strategy data already or if there are indicators missing;
- understanding the intermediary’s experience with collecting survey data with their staff;
- discovering whether data sharing agreements with the schools and districts need to be set up or updated;
- examining the intermediary’s QA and QC process;
- assessing whether the intermediary has the staff and resources to properly clean, aggregate, submit and/or analyze data.

These documents are living documents to be updated throughout the project. The foundation and each intermediary must have access to the appropriate data capacity gap analysis.
Deliverable 2.3. Data Capacity Gap Resolutions

Once gaps have been identified and analyzed, the DSP will present recommendations on how to fill these gaps. Included in these recommendations will include the path to resolving these gaps including those who are involved, which we expect will be the DSP, subcontractors (if applicable), and the entities themselves.

The DSP will work with the foundation, NSIs, and evaluation partners to determine whether to move forward with the proposed resolutions.

These resolutions could take the form of trainings, webinars, documentation, and other forms of technical assistance. The foundation and all relevant stakeholders must have access to the data capacity gap resolutions.

Deliverable 2.4. Testing, Quality Assurance, Quality Control Plan

The DSP will develop a testing, quality assurance, and quality control plan specifically for the Big 3 data that will be delivered to the foundation and the evaluation partners. These plans will result in verification that any data sent to the foundation are fully de-identified, accurate, comprehensive, and in compliance with education data laws.

The DSP will propose what tools or resources are needed to ensure quality control of data received from intermediaries and to ensure datasets used are reproducible. In addition, the DSP will ensure intermediaries are using descriptive file names, providing business rules, and fulfilling other data quality assurances.

Deliverable 3. Data Delivery

Deliverable 3.1. Big 3 Data

The DSP is expected to deliver the annual Big 3 data from each intermediary following collection and cleaning. These data will be used by the foundation and the evaluation partners to gauge progress towards the strategy goal.

The Big 3 data bundle includes:

- data from each intermediary in ‘tidy’ csv’s – i.e., structured to facilitate analysis;
- documentation of business rules;
- documentation and metadata;
  - codebooks with variable names;
  - questionnaires and interview guides;
  - any code created by DSP during reporting or visualization.

The bundle should be delivered in an easily accessible way and preferably through a workspace that allows retrieval of previous years’ data. The foundation, intermediaries, and the evaluation partners must all have role-based access to the annual Big 3 data.
Deliverable 3.2. Data Reports & Visualizations

Once the Big 3 data have been collected, cleaned, and delivered, the DSP can optionally propose to provide data reports and visualizations for reporting to the foundation. These reports and visualizations facilitate analysis and can bring forth insights to guide decision making. Data reports and visualizations could include:

- automated reports;
- informational summaries;
- dashboards;
- ad hoc responses;
- analysis presentations.

The format of these outputs depends on the purpose and can vary widely; however, we greatly prefer the use of open access tools and interfaces. We expect data reporting and visualization work to be done in partnership with the K-12 team’s analytics experts. The foundation and relevant stakeholders must have access to the data reports and visualizations.

Deliverable 4. Validation and Implementation Artifacts

Deliverable 4.1. Data Sharing Agreements

We are looking for a data sourcing partner who has expertise in providing best practices for education data sharing agreements and can provide evidence of their experience. The DSP will be required to follow applicable local, state, and federal laws in collecting and storing data. Strict adherence to education data privacy laws will foster trust and collaboration among intermediaries and their schools, districts, or other relevant parties.

Whenever dealing with student or other sensitive data, the DSP must ensure that the proper data sharing agreements or memorandums of understanding exist between the actors and that all entities are abiding by these agreements. Actors must ensure that all their subcontractors are also bound by these agreements or memorandums and reasonable privacy and security protections as applicable. Data sharing agreements and memorandums of understanding must all be saved in an easily accessible place for the foundation and each intermediary.

Deliverable 4.2. Acceptance and Adoption Report

The DSP will demonstrate each deliverable to the foundation to ensure that each deliverable satisfies the end users requirements developed during the requirements gathering process. The DSP will ensure that the deliverables address end-user challenges and will support data-driven decision-making and changes to instructional practice.

These reports can be included in the periodic status reports.
Deliverable 4.3. Tools, Trainings, and Resources

During the DSP’s work, we expect that tools, trainings, and other resources will be created for intermediaries, their schools, or their districts. As new intermediaries launch NSIs, we want to make these resources accessible to make their onboarding and capacity building as easy and smooth as possible. A primary outcome of the NSI work is the codification of models for improvement, to which these resources will contribute.

Resources we are expecting include, but are not limited to:

- training for project deliverables;
- documentation of best practices for Data Sharing Agreement/Memorandum of Understanding for sharing student-level data between schools and intermediaries, districts and intermediaries;
  - these do not necessarily need to be created from scratch but can be adapted and modified;
- data privacy training – understanding PII, FERPA, COPPA, and security best practices;
- documentation on successfully administering surveys.

These resources should be delivered in an easily accessible way and preferably through a workspace that allows easy sharing and retrieval of previously created resources. The foundation and all intermediaries must have access to the tools, trainings, and resources.

Deliverable 4.4. Performance Appraisal Report

Because the DSP investment aims to create a process that is easy, unobtrusive, and sustainable for NSIs, we expect to receive regular feedback from intermediaries about how they perceive working with the DSP.

This information can come from multiple sources, such as:

- creation of a service level agreement between the DSP and intermediary with a rubric against each deliverable;
- documented, regular feedback on deliverables, training materials, and the partnership;
- periodic satisfaction surveys;
- observing intermediary improvement and data capacity gap closure from year to year.

These reports can be included in the periodic status reports.

Deliverable 4.5. Data Warehouse

The DSP will be sending non-PII strategy level data to the foundation and relevant stakeholders on an annual basis. A data warehouse for all users with permission settings appropriate to the privacy and security of the data will be useful for holding information in one place.
The complexity of this warehouse can vary widely, from a Dropbox account to a warehouse that hosts dashboards and APIs. We require version control for any data warehouse. The foundation and all relevant stakeholders must have access to the data warehouse, with only applicable data visible to each party.