Request for Information (RFI) 15682

RFI for Data Repository Solutions

IOWA DEPARTMENT OF TRANSPORTATION
Office of Finance, Purchasing Section

Information must be received no later than

March 16, 2016
1 p.m. Central Time

For information about the notice
Interested persons shall contact only:

Jean Gustafson, Purchasing Agent 3
800 Lincoln Way
Ames, Iowa 50010
Phone: 515-239-1173
Fax: 515-239-1538
E-mail: jean.gustafson@dot.iowa.gov
Section 1.0 Purpose

1.1 Purpose for the RFI

The intended purpose of the Request for Information (RFI) is to allow interested vendors an opportunity to present information of availability of products or services that meet the specification outlined below. The information provided by vendors will be used to identify existing or potential solutions that best fit Iowa DOT.

The Iowa DOT encourages Respondents who may only have experience in particular segments of the products or services described herein to help provide a full picture of the products and services available.

This is not a request for proposal (RFP) where bidders respond with a specific solution to Iowa DOT specifications. An RFP process is a separate process with further defined requirements.

1.2 Relevant Dates

Issuance of RFI – February 25, 2016

Submittal of questions by vendors (no later than) – March 2, 2016

Iowa DOT responses to vendor questions deadline (no later than) – March 9, 2016

RFI response by vendor deadline – March 16, 2016

1.3 Overview

The Iowa Department of Transportation (Iowa DOT) is seeking information on data warehouse solutions to help consolidate our diverse data sets into a single authoritative source that can be used for reporting, spatial visualization, integration, and sharing for both internal and external requests.

The Iowa DOT currently has structured data leveraging character, numeric, BLOB, CLOB and geospatial data types stored in Oracle, SQL, IDMS, and various other desktop formats; as well as, unstructured data consisting of images, geospatial, Excel and more. We have a large amount of historical and transactional data that needs to be consolidated to improve decision making, organized to support analytics, made accessible in alignment with transparent government initiatives.

In addition to traditional data warehousing functionality, the Iowa DOT is interested in business intelligence (BI) capabilities and analytics. We are seeking solutions that could present the Iowa DOT’s information consistently through a common data model regardless of the data’s source. Solutions should include the ability to perform user level ad-hoc reporting, general data mining, geospatial storage and analytic tools/dash boarding.

Finally, respondents should clearly define how the solution will support the Iowa DOT’s efforts to implement data governance.
Section 2.0 Acronyms

BI   Business Intelligence  
ERMS Electronic Records Management System  
Iowa DOT The Iowa Department of Transportation  
IT Information Technology  
RFI Request for Information

Section 3.0 RFI Responses

3.1 Response

Vendors are requested to submit a response to this request for information as described herein. Responses to this RFI may qualify Vendors to participate in any formal Request for Proposal (RFP) process.

3.2 Submittal instructions

Vendors shall submit responses to the following information in order.

All RFI’s shall be submitted electronically. A signed transmittal letter on the Vendor’s letterhead shall be in the electronic document including all company and contact information.

Vendors are requested to submit general price ranges with their cost information, where applicable, to be used for reference only. No formal quotations shall be received or awarded in the RFI process.

No awarded contract shall be issued from the RFI process. Submitting a response to this RFI is optional. Submitted RFIs shall in no way bind the Iowa DOT or any other agency to any purchase for any reason. The RFI is for information gathering purposes only. All information provided by Vendors shall be at no cost and without obligation to the Iowa DOT.

3.3 Questions and Requests for Clarification

Vendors interested in responding to this RFI may submit questions or requests for clarification. All questions or requests must be submitted by E-mail to jean.gustafson@dot.iowa.gov listed on the RFI cover page.

The Iowa DOT will respond to the vendor questions as timely and as appropriately as possible and in accordance to the outlined timeline in Section 1.2

3.4 Review of RFI responses

RFI responses will be reviewed by the requesting Iowa DOT business unit and Purchasing Section. Review of submitted responses to the RFI will assist in the potential bid opportunity to procure the goods and/or services sought by the agency.
3.5 Copyright

By submitting a response, the Vendor agrees that the Iowa DOT may copy the response for purposes of facilitating the evaluation or to respond to requests for public records. The Vendor represents that such copying will not violate any copyrights in the materials submitted.

3.6 RFI ownership

Once received, submitted Vendor responses become the property of the State of Iowa.

3.7 Vendor Responsibilities

Vendors are responsible for explanation of current solutions and demonstration of solutions to the Iowa DOT.

Section 4.0 Specifications

The Iowa DOT is seeking information related to the following items.

Background and business benefits:

1. Provide an overview of your data repository solution(s).
2. How would your data repository solution(s) benefit the Iowa DOT?
3. What are the pro and cons of the various types of data repositories?
   a. Data warehouse
   b. Traditional data warehouse
      i. Operational data warehouse
      ii. Logical data warehouse
      iii. Context independent data warehouse
   c. Data Lake
   d. Operational data storage/data mart

Specific Technical Questions

1. What does your solution consist of?
   a. Software, licensing, hardware
   b. Cloud options

2. How do you initially size your data repository?

3. What is the process to grow storage/stretch?

4. How is data loaded to the solution? What best practices and tools do you have available?

5. What third party tools can be used to access the data once it is in the solution?

6. Describe any web services that can be used to interact with your solution.
7. What third party or included tools work with your solution for:
   a. Auditing?
   b. Data lineage?
   c. ETL?
   d. Data Governance enforcement?

8. How is data security handled?
   a. What authentication mechanism is used for user access?
   b. What levels of permission granularity exist?

9. Can the solution deal with data from the following sources or type?
   a. Structured
      i. ESRI REST Services
      ii. Database (Oracle, SQL, IDMS)
         1. Geospatial
         2. BLOB
         3. CLOB
         4. Other datatypes
   b. Unstructured
      i. Images
      ii. Wave Files
      iii. MS Office Stack Document (Word, Excel, SharePoint, etc.)
      iv. Geospatial file formats

10. Does your solution support portability of algorithms between a data lake, warehouse or database environment?

11. What is the approach to ‘future proof’ the data repository to support new technologies?

12. How does the solution work with other data warehouse type products that might be in the environment or added to it later?

13. What are some expected time frames for a solution to be up and running?
    a. Functional as test environment only?
    b. Production environment implementation?

Data Governance

1. How will the suggested solution help the Iowa DOT achieve data governance?

2. What support and services do you provide to help organizations implement Enterprise Information Management (EIM) with data governance?

Vendor Resources

1. Do you have case studies of implementations at similar types of government agencies?

2. Is a test environment or demo site available for viewing your solution?

3. Would you be willing to do a webinar on your solution if requested?
Example Use Cases

1) Duplicate, and often conflicting, data sources exist. For example, the DOT tracks construction projects using multiple unique values. These values are tied to various, separate business functions (financials, procurement, project execution, etc.). How can your solution consolidate information across multiple sources to provide a single, consistent view of our data?

2) Some data sources have had primary keys reused over time causing confusion, rework, and poor data quality. For example, many of our business functions are aligned to a numerical “cost center”. Historically, the numerical values have changed (e.g. cost center 123456 was once Bridge Design, but is now Finance). How can your solution use temporal analytics to provide a view of cost center information relative to the time at which the record / piece of data was created?

3) The Iowa Open Data Initiative requires the DOT to make public significant amounts of business data. How will your solution help us achieve this mission? (for more information, visit: https://data.iowa.gov/)

4) Iowa DOT leverages SQL Server Spatial and Oracle Spatial as the method to store enterprise spatial objects. Any warehousing solution must allow various technology to read and display, not only traditional data types, but spatial data types as well. An example would be Iowa DOT leverages ESRI ArcGIS server to produce REST services that can be ingested into map display technology but also used to query and validate requests. How your solution leverage spatial objects? How would your solution allow ArcGIS Server to query data in the warehouse.