**University of Maine System**
**Business Intelligence / Data Integration Solution - RFP# 2018-23**
**ADDENDUM #01**

## QUESTIONS

1. **1.1.4 Specifications/Scope of WorkPage**
   7: UMS (minimum) requirements for Data Integration (DI) tool: (bullet 13) The tool component architecture should support and extract, load and transform (ELT) architecture and NOT require a dedicated data integration server.

   Question: Is UMS looking to have all things run locally (developers box) or that you want the data integration server where the ETL server runs to be able to be a shared system with other tools (or databases)?

   **ANSWER:**
   UMS seeks to run data integration processes and jobs on source or target database servers rather than extracting data, moving to an intermediate ETL server and then moving/loading results to target server. Would also prefer ability to run some data integration processes in-database when possible.

2. **Appendix J** Beyond technical integration and security, what requirements are there for Data Governance? Page 61**: Visualizations & Dashboards; Evaluation Question(s) – Content Creation - #12 mentions monitoring the quality of the information.**

   **Question:** What expectations are there for remediation of data quality issues that are uncovered? Is tracking and linking of data that exists in multiple places important? If so, what matching/mastering patters are targeted (registry, coexistence, etc.)?

   **ANSWER:**
   Not searching for Master Data Management (MDM) or data quality tool. Assuming data integration processes will be more than sufficient to meet current and anticipated data quality needs.

3. Page 62: **BI Tool - Evaluation Question(s) – *Collaboration & Sharing* - #6**. Describe your platform's ability to publish data dynamically to a website or URL? Are there additional fees associated with this? Can this be encrypted?

   **Question:** What is UMS's intent here? Can you explain what you are trying to accomplish?

   **ANSWER:**
   Our intent is to ascertain whether your tool can publish the results of a report/dashboard to a website for sharing and if so, do you charge more for that service? Please specify if the publishable website is on-prem, cloud, or other options. Additionally, can the published reports be secured, so only authorized people can access the data?

4. Can you confirm the number of system users – those who will be accessing the dashboards and reports?

   **ANSWER:**
   A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years.

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5. Can you confirm the number of power users or report creators – those who will be administrators and creating dashboard/reports and determining access?

   **ANSWER:**
   A ballpark estimate within an order of magnitude would be 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years.

6. Would the University prefer pricing:

   a. On an annual subscription price which includes all software maintenance and updates
   b. Or a single initial perpetual software license price with annual maintenance fees
   c. Or both and you can analyze the alternatives

   **ANSWER:**
   Preference is for both.

7. Please advise as to your preferences:
   a. Cloud-based or on-prem solution
   b. Reporting database only or data warehouse?

   **ANSWER:**
   On-prem for data integration solution; all options to be presented for business intelligence solution. UMS' plan is to develop data architecture for analytics that will accommodate and support a DW.

8. Any PII/PHI or other regulatory requirements we need to address within our response?

   **ANSWER:**
   Not specifically; Respondents may refer to and review the 3rd Party Contract Guidelines established for UMS available here: **http://www.maine.edu/about-the-system/system-office/information-security/** and confirm solution alignment with these established guidelines.

9. Is there an established budget for this project?

   **ANSWER:**
   Available budget is not a consideration for RFP; Vendor should provide best pricing to meet specifications and requirements as outlined in this RFP.

10. Do you have a preferred vendor?

    **ANSWER:**
    No.

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11. Page 38 – Scope of Work UMS (minimum) requirements for Data Integration - to assist in determining the scope of work would it be possible to get a list of the various databases & data types for integration? Below is an example

    **ANSWER:**

| | |
|---|---|
| Relational databases: | Oracle, Microsoft SQL Server - all ODBC & JDBC compliant |
| Flat files: | CSV, tab delimited, Excel |
| Primary ERP: | Oracle PeopleSoft |
| Cloud/Hosted: | Blackboard LMS (Oracle); TargetX/Salesforce |

12. **Reference Section: Appendix C - Required Cost Evaluation Exhibits**

    a. Could you please provide a list of the existing hardware and software investments to help inform pricing that leverages current investments?

    **ANSWER:**
    Not a consideration for RFP

    b. When considering pricing that leverages the System's existing investments, should human capital costs also be included?

    **ANSWER:**
    Not a consideration for RFP

    c. Will UMS consider pricing that is based on an annual subscription model?

    **ANSWER:**
    UMS is open to all pricing models with multiple available options considered favorable.

13. What existing skillsets does your data integration team possess?

    **ANSWER:**
    Limited. UMS anticipates need for appropriate training. UMS plans on a limited number of people performing data integration work and will select a data integration tool that minimizes need for dedicated data integration specialists.

14. What existing skillsets does your business intelligence team possess?

    **ANSWER:**
    Limited. UMS anticipates need for appropriate training. UMS plans on a limited number of people performing business intelligence and analytics work. UMS desires a tool or suite of tools to facilitate widespread dissemination of insight derived from these specialists.

15. Does UMS already integrate data from all 7 institutions and 10 campuses? If so, what is the current high level replication architecture?

    **ANSWER:**
    (Most) of our ERP data resides in the same Oracle database; however, the tool should be able to pull data from various internal and external sources. Current replication architecture is not a consideration for future directions and for this RFP.

16. What types of data does the existing UMS data warehouse currently contain? Student data? Financials? LMS? CRM? Other?

**ANSWER:**
Current DW is being deprecated and not a consideration for this RFP.

17. Can UMS elaborate on what a data warehouse that is "not widely used" entails (reference Section 1.1.3 Purpose, page 5)? Does the current system support operational reporting? Regulatory reporting? Strategic planning? Would any/all of existing content need to be supported in a future state?
    **ANSWER:**
    Current DW is being deprecated and not a consideration for this RFP. There is no expectation for migration of existing content. Future DW will accommodate both operational and regulatory reporting and inform strategic planning.

18. How much content is currently available? Tens of reports? Hundreds? Thousands?
    **ANSWER:**
    Current DW is being deprecated and not a consideration for this RFP. There is no expectation for migration of existing content. Future DW will accommodate both operational and regulatory reporting and inform strategic planning.

19. How much historical data is available? Less than 5 years, Less than 10, more than 10 years?
    **ANSWER:**
    Current DW is being deprecated and not a consideration for this RFP. There is no expectation for migration of existing content.

20. Is the UMS team interested in finding tools to revitalize their existing platform or to completely re-platform for new capabilities?
    **ANSWER:**
    Current DW is being deprecated and not a consideration for this RFP. There is no expectation for migration of existing content. Future DW will be re-platformed to provide necessary capacity.

21. Is the UMS team open to a comprehensive hosted platform-as-a-service solution that combines data integration, business intelligence, pre-packaged higher education analytics and data science services into a single offering?
    **ANSWER:**
    UMS is interested only in DI and BI enabling tools at this time.

22. Can UMS provide examples of targets they expect the data integration tool to be able to manipulate? For example, is the data integration expected to synchronize data with a CRM like Salesforce.com?
    **ANSWER:**
    Initial targets for DI will be Oracle and SQL Server database with flexibility to incorporate external, hosted data sources in the future (e.g. Target X/Salesforce).

23. Is the UMS team requesting a proposal for an iPaas solution?
    **ANSWER:**
    UMS is interested only in DI and BI enabling tools at this time.

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24. Who will perform the build of the data warehouse and analytics? Is the UMS team requesting a proposal primarily for tools or a combination of tools and subject matter expertise and services?
    **ANSWER:**
    UMS is interested only in DI and BI enabling tools at this time.

25. On what infrastructure will this run? Does UMS anticipate that the new tools will be hosted on their existing infrastructure or will they be provisioned in new infrastructure? If the latter, should vendors propose an infrastructure to support these tools and the broader project build?
    **ANSWER:**
    UMS is prepared to provide newly provisioned resources within current virtual infrastructure (VMWare) to support on-prem DI and DW. For BI, infrastructure requirements should be specified in response to help UMS determine most appropriate approach.

26. This RFP specifies the need for a data integration tool, but also specifies that UMS does not want a dedicated integration server. Can you elaborate on UMS' requirements as it relates to data integration tools and their corresponding dedicated servers?
    **ANSWER:**
    UMS seeks to run data integration processes and jobs on source or target database servers rather than extracting data, moving to an intermediate ETL server and then moving/loading results to target server. Would also prefer ability to run some data integration processes in-database when possible.

27. What are the source systems that require integration? Does each campus have its own source systems or is there a shared infrastructure across campuses for certain source systems?
    **ANSWER:**
    (Most) of our ERP data resides in the same Oracle database; however, the tool should be able to pull data from various internal and external sources. Examples of source systems noted below:

    | | |
    |---|---|
    | Relational databases: | Oracle, Microsoft SQL Server - all ODBC & JDBC compliant |
    | Flat files: | CSV, tab delimited, Excel |
    | Primary ERP: | Oracle PeopleSoft |
    | Cloud/Hosted: | Blackboard LMS (Oracle); TargetX/Salesforce |

28. Is there a budget for the overall initiative?
    **ANSWER:**
    Available budget is not a consideration for RFP; Vendor should provide best pricing to meet specifications and requirements as outlined in this RFP.

29. Is there a timeline that this work needs to be completed?
    **ANSWER:**
    No

30. Will the primary audience be at the University of Maine System level, the individual campuses, or both?
    **ANSWER:**
    Both

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31. What are the drivers for this initiative? Are there specific questions UMS is trying answer related to enrollment, retention, financials, etc.?

**ANSWER:**

UMS is seeking to enhance campus response to several KPI, including enrollment, retention and financials, through a coordinated data integration and business intelligence strategy. Tools included in the RFP response should provide flexibility for UMS and campuses' to adjust KPIs to reflect emerging priorities.

32. Data Centric Questions

a. What are the different types of RDBMS and unstructured data source that are part of the eco-system?

**ANSWER:**

(Most) of our ERP data resides in the same Oracle database; however, the tool should be able to pull data from various internal and external sources. Examples of source systems noted below:

| | |
|---|---|
| Relational databases: | Oracle, Microsoft SQL Server - all ODBC & JDBC compliant |
| Flat files: | CSV, tab delimited, Excel |
| Primary ERP: | Oracle PeopleSoft |
| Cloud/Hosted: | Blackboard LMS (Oracle); TargetX/Salesforce |

b. How many number of source system are present? What is max size of the object per source? What is the total count of objects per source?

**ANSWER:**

Proposed solution should have flexibility to accommodate dozens of sources, thousands of objects and tens of millions of rows.

c. Categorize data source into internal and external with reference to data ownership of university?

**ANSWER:**

N/A

d. What is approximate, total count of the target objects by various targets?

**ANSWER:**

| | |
|---|---|
| Relational databases: | Oracle, Microsoft SQL Server - all ODBC & JDBC compliant |
| Flat files: | CSV, tab delimited, Excel |
| Primary ERP: | Oracle PeopleSoft |
| Cloud/Hosted: | Blackboard LMS (Oracle); TargetX/Salesforce |

Proposed solution should have flexibility to accommodate dozens of sources, thousands of objects and tens of millions of rows

e. What type of infrastructure is in place and what is the desired infrastructure for the go to solution?

**ANSWER:**

UMS is prepared to provide newly provisioned resources within current virtual infrastructure (VMWare) to support on-prem DI and DW. For BI, infrastructure requirements should be specified in response to help UMS determine most appropriate approach.

f. What is the data refresh frequency?
**ANSWER:**
Daily and possibly intra-day but NOT real-time.

g. What are the data compliance required?
**ANSWER:**
Respondents may refer to and review the 3rd Party Contract Guidelines established for UMS available here: **http://www.maine.edu/about-the-system/system-office/information-security/** and confirm solution alignment with these established guidelines.

h. Is there a need to migrate historical data? If yes how old is the data?
**ANSWER:**
Current & historical data will be loaded from enterprise applications with the exception that there are existing snapshot tables/files that exist outside of those applications.

33. Questions on Reporting Tools :
a. What is your Preference on BI tools?
**ANSWER:**
None

b. Does BI tools require branding( white labeled reporting portal by Campus i.e each campus would have its own reporting portal )
**ANSWER:**
Not at this time

c. Are there any needs for report data access restriction by Campus/user?
**ANSWER:**
Yes. May use database, application or BI tool to enforce.

d. What are the types of BI user groups and approx. numbers of users to respective groups?
**ANSWER:**
A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years; 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years.

34. **Overall Goals of Business Intelligence and Data Integration Solution**
a. Can you specify the top 1-2 priorities or goals of the analytics for each office (InformationTechnology, Strategic Procurement, Human Resources, Facilities, Risk and General Services,Finance and Budget, Shared Processing Center, General Counsel and OrganizationalEffectiveness)?
**ANSWER:**
Not applicable for RFP response; UMS is seeking enabling tools with the flexibility to adapt to emerging priorities as determined by each functional unit.

b. What are the use cases?
**ANSWER:**

Please refer to the RFP Specifications/Scope of Work (Section 1.1.4) for details on desired solution characteristics.

c. What type of graphical summary data is UMaine seeking?
**ANSWER:**
Please refer to the RFP Specifications/Scope of Work (Section 1.1.4) for details on desired solution characteristics.

d. Which BI tools are under consideration?
**ANSWER:**
UMS is considering various tools and will consider tools proposed in responses to the RFP.

e. Which Data Integration tools are under consideration?
**ANSWER:**
UMS is considering various tools and will consider tools proposed in responses to the RFP.

35. **Sizing Questions for Business Intelligence:**
    a. How many users will be using the platform? Please specify, as below:
        i. Overall, maximum number of users
        **ANSWER:**
        A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years; 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years

        ii. Consumers only, reading analytics, reports and interacting (changing filters, parameters, drill down, etc.)
        **ANSWER:**
        A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years; 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years

        iii. Authors, editing reports and creating new visualizations
        **ANSWER:**
        A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years; 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years

        iv. Data savvy users, connecting to the source systems and databases, preparing and joining data
        **ANSWER:**
        A ballpark estimate within an order of magnitude would be 50 business users in 1st year growing to 300 in 3 years; 10 people administering security, privileges, etc. and 20 power users in 1st year growing to 50 power users in 3 years

        v. What level of concurrency do you expect? For example, out of the total users specified above, how many will be using the system simultaneously.

**ANSWER:**
Number of concurrent users will be very low; likely fewer than 5-10% of users mentioned above.

vi. Maximum at peak times (e.g. certain hours in day any given day of a month)
**ANSWER:**
Since number of concurrent users is expected to be low as noted above, we feel peak usage should not be a concern in this RFP.

vii. On average, daily
**ANSWER:**
Since number of concurrent users is expected to be low as noted above, we feel daily usage demand should not be a concern in this RFP.

b. How many users will be consuming the static content only (e.g. PDF generated versions of the reports)?
**ANSWER:**
Since number of concurrent users is expected to be low as noted above, we feel total usage of static/PDF documents should not be a concern in this RFP.

c. What's the expected growth in the number of users over time? Please specify the initial rollout and the annual growth rate (e.g. 10%).
**ANSWER:**
Since number of concurrent users is expected to be low as noted above, we expect annual growth to be minimal and thus should not be a concern in this RFP.

d. Does the environment need Disaster Recovery?
**ANSWER:**
On-prem DI solutions would be included in established business backup processes. Relevant or complementary DR capabilities for a vendor's solution should be fully described by the respondent.

e. Does the environment need High availability?
**ANSWER:**
No

f. How many environments do you support? (Dev/Test/QA/Prod/DR)
**ANSWER:**
We will be looking to support two environments: combined Dev/QA and Prod

g. Do you require production-like performance testing in a lower environment?
**ANSWER:**
No; however, the Dev/QA environment should provide a reasonable approximation of performance to be expected within the Prod environment when changes and updates are made for testing.

36. **Sizing Questions for Data Integration Tool:**
    a. Number of jobs ran daily:
        i. Batch

**ANSWER:**
Preferred approach will be intraday integration processes but if daily batch job(s) are used, then TBD how many jobs based on data interdependencies and most effective design based on data integration tool selected. Likely several to potentially dozens, but not many.

ii. Intraday
**ANSWER:**
Preferred approach will be intraday integration processes but if daily batch job(s) are used, then TBD how many jobs based on data interdependencies and most effective design based on data integration tool selected. Likely several to potentially dozens, but not many.

iii. Real-time
**ANSWER:**
Real-time not a current or foreseen requirement. Would use intraday on a frequent or looping basis to provide near real-time integration, but, again, not needed.

b. Does the environment need Disaster Recovery?
**ANSWER:**
On-prem DI solutions would be included in established business backup processes. Relevant or complementary DR capabilities for a vendor's solution should be fully described by the respondent.

c. Does the environment need High Availability?
**ANSWER:**
No

d. How many environments do you support? (Dev/Test/QA/Prod/DR)
**ANSWER:**
We will be looking to support two environments: combined Dev/QA and Prod

e. Do you require production-like performance testing in a lower environment?
**ANSWER:**
No

f. How much data is moved (in GB) per day?
**ANSWER:**
Low daily volume, certainly less than 100Gb (several years from now) but more likely to be less than 10Gb.

g. How long is your batch window?
**ANSWER:**
With data volumes being low, using CDC and planning to load throughout day, so batch window not a concern

h. What is your anticipated data growth (%)?
**ANSWER:**
With data volumes being low, anticipated data growth is not a concern for this RFP.

i. Which operating systems do you support?
**ANSWER:**
Preferred: Windows Server 2016, Oracle Enterprise Linux 7, or CentOS 7
Supported: Windows Server 2012, RHEL 7, Oracle Enterprise Linux / CentOS / RHEL 6

j. What does your current data integration infrastructure look like? How many CPU? How much RAM? Storage?
**ANSWER:**
N/A

k. Do you currently have data integration performance issues?
**ANSWER:**
N/A

37. **Data Sources**

a. What other data sources and applications will be used, beyond already specified in the RFP?
**ANSWER:**
Potential data sources beyond current BI project will include relational databases, files or cloud application with published APIs.

b. How frequently do you expect data to be refreshed in the analytical tool? Please specify by each source system as following:

i. Once a day (e.g. overnight)
**ANSWER:**
All data sources; Preferred approach will be intraday integration processes but if daily batch job(s) are used, then TBD how many jobs based on data interdependencies and most effective design based on data integration tool selected.

ii. Intra-day (e.g. hourly refresh)
**ANSWER:**
Some data sources; Preferred approach will be intraday integration processes but if daily batch job(s) are used, then TBD how many jobs based on data interdependencies and most effective design based on data integration tool selected.

iii. Close to real-time or real-time
**ANSWER:**
None

iv. What kind of a data integration solution are you planning on using in your analytical initiatives: a data warehouse, data hub, data vault, federation, other?
**ANSWER:**
Selection of DI solution to be determined through this RFP; UMS seeks flexibility to determine most appropriate architecture to support BI/analytics needs.

v. What source applications and business subject areas are already part of a data integration solution and what are you planning to implement over the next 3 years?

**ANSWER:**
Relational databases: Oracle, Microsoft SQL Server - all ODBC & JDBC compliant
Flat files: CSV, tab delimited, Excel
Primary ERP: Oracle PeopleSoft
Cloud/Hosted: Blackboard LMS (Oracle); TargetX/Salesforce

vi. Are you planning on augmenting your data from any external or 3rd party sources? IF so, please provide examples.
**ANSWER:**
Not at this time and not a priority for this RFP.

c. What types of unstructured data are you planning on reporting on?
**ANSWER:**
None at this time and not a priority for this RFP.

38. **Hosting and Platforms**
    a. Are you planning on hosting the platform in the cloud or on-premise?
    **ANSWER:**
    On-prem for data integration solution; all options to be presented for business intelligence solution. UMS' plan is to develop data architecture for analytics that will accommodate and support a DW

    b. What will be your cloud provider?
    **ANSWER:**
    No preferred cloud provider; all options to be considered for BI solution.

    c. If on-premise, will you be leveraging physical or virtualized environment. What VM vendor will you be using?
    **ANSWER:**
    For all on-prem solutions, UMS will seek to leverage existing VMWare virtual infrastructure.

    d. What SLA are you expecting from the analytical tool?
    **ANSWER:**
    UMS expects performance that is standard in today's industry for uptime and support response time.

39. **Training**
    a. How many users do you expect to be trained by the vendor?
        i. Basic curriculum
        **ANSWER:**
        UMS expects a limited number of people to require training mostly for IT staff and advanced business users. Training opportunities may include onsite and online options, but online and/or on-demand is preferred. UMS expects to employ a train-the-trainer model for the majority of staff to include 50 business users in 1st year.

        ii. Advanced training
        **ANSWER:**
        UMS expects a limited number of people to require training mostly for IT staff and advanced business users. Training opportunities may include onsite and online

options, but online and/or on-demand is preferred. UMS expects to employ a train-the-trainer model for 20 power users in 1st year.

iii. Administrators
**ANSWER:**
UMS expects a limited number of people to require training mostly for IT staff and advanced business users. Training opportunities may include onsite and online options, but online and/or on-demand is preferred. UMS expects to employ a train-the-trainer model for 10 administrators in 1st year.

b. Are you considering the "train the trainer" model, where certain individuals will be designated to train and coach others?
**ANSWER:**
Yes; depending upon available online and on-demand training options.

c. If so, how many trainers do you anticipate?
**ANSWER:**
Answer depends on the curriculum to be offered. For in-person training, a ballpark estimate would be up to 10 business user trainers, 4 power user trainers and 2 administrator trainers.

40. **Services and timing**

a. What implementation services are required as part of this technology acquisition process?

i. Do you have a technical staffing plan to migrate to the new platform(s)?
**ANSWER:**
There is no expectation for migration of existing DW content; current & historical data will be loaded from enterprise applications.

ii. When must the new technology fully replace the existing legacy systems?
**ANSWER:**
UMS expects to initiate BI project after tools have been selected

iii. Will the existing EDW be re-engineered/re-developed as part of this program?
**ANSWER:**
There is no expectation for migration of existing DW content; current & historical data will be loaded from enterprise applications

iv. What are the major Data/BI objectives planned for CY18?
**ANSWER:**
Not a consideration for tool selection through this RFP.

v. What new data platforms (eg NoSQL, Big Data, Graph) are in the technology roadmap?
**ANSWER:**
None planned at this time

vi. What is the SDLC methodology preferred? Are Agile and DevOps enablement a factor?

**ANSWER:**
UMS does not consider SDLC methodology and / or Agile / DevOps readiness to be priorities at this time.