EAST BAY MUNICIPAL UTILITY DISTRICT

Financial Information System (FIS) and Material Management Information System (MMIS) Replacement Project

Technical (Non-Functional)

Philosophy, Priorities and Requirements

October 24, 2017

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1 Definitions

Cloud-based Services	Applications, services or resources made available to users via the Internet.
District	East Bay Municipal Utility District
Vendor	Person or company that specializes in bringing together software subsystems into a functioning whole, integrating existing or new business processes and warrants configuration and services to meet defined requirements.
System	The software solution including licenses and configurations which meets all defined requirements or an agreed upon subset of requirements.

2 Security / Authentication

a) **Encryption**
   1) The System shall utilize standard cryptographic protocols (TLS) to encrypt any web page performing transaction processing for internal or external tasks.
   2) The System shall strongly encrypt all confidential or personally identifiable information in transit and at rest.

b) **Role-based User Access**
   1) The System shall provide role-based access control throughout the System to implement least privilege access.
   2) The System shall extend role-based access control to the application, transaction and data levels.
   3) The System shall provide configuration tools for District staff to assign and modify users to and from different roles.

c) **Application Design**
   1) The System shall be designed, developed, deployed and tested in accordance to industry standards including but not limited to Open Web Application Security Project (OWASP) security principles.

d) **Cloud-based Services**
   1) Cloud-based services shall comply with all relevant security standards including ISO/IEC 27001:2013 and PCI DSS.
   2) Cloud-based service providers shall be obligated to immediately notify the District of any security breach.

e) **Audit Trails and Logging**

1) The System shall provide audit trails for all transactions generated by the System which includes capturing, storing and reporting on user activities.
2) The System shall make audit trail information available to only a select group of user roles.

3 Usability

a) **Single Sign-On**
   1) The System shall use single sign-on technology. CAS, standard SAML protocol and Active Directory are currently used at the District.

b) **Mobility**
   1) The System shall provide access to all major functions through mobile devices running Android, Windows or iOS operating systems.

c) **Accessibility**
   1) The System shall provide access to all functionality through HTML 5 compliant standard web browser.
   2) The System shall be accessible from current versions of Internet Explorer and Chrome.
   3) The System should be in compliance with Section 508 of the Rehabilitation Act of 1973.

d) **Scalability / Flexibility**
   1) District user profile for the System will likely change in the future.
      a. The System shall accommodate an increased number of District users without any degradation in performance.
   2) Additional District software systems will likely come online in the future.
      a. The System shall accommodate interactions with new systems through standard interfaces (details below).

e) **Online Help**
   1) The System shall provide multiple methods of online, interactive help including but not limited to context-sensitive, topical searches of documentation, reference documents, tutorial videos and specific, clear, non-technical error messages.

f) **System Performance**
   1) The System shall be available to the District 24 hours a day, 7 days a week.
   2) The System shall provide 99.5 percent availability.
   3) The System shall have a mechanism to document system up-time that is available to the District to review.
   4) The System shall have tools to evaluate real-time system performance and make them available to the District.

4 Interfaces

a) The District utilizes numerous custom-built, commercial off-the shelf and cloud software solutions. The System will need to exchange data with many of these applications in batch or real time. A brief description of some of the applications/vendors with which the System may need to interface is found in Appendix A.
   1) The System shall utilize standard interface technologies to exchange data with other applications. This includes but not limited to JSON and XML for data exchange, REST and SOAP as messaging protocols and industry-standard web services.
   2) The System shall encrypt all data that traverses public computer networks and protect that data from fraudulent activity, unauthorized disclosure or modification.

b) The District preferred methods of data exchange are listed below in the order of higher to lower priority:
   1) Web services
   2) Shared database tables
   3) Flat file

c) The District utilizes electronic documents in a variety of contexts. Most will be stored in the District-wide document management system called DOX.
   1) The System shall be able to import or export electronic documents into / out of the District-wide document management system using API's provided by the District.

5 Data Management

a) **Data Warehouse**
   1) The Information Systems Department at EBMUD maintains a District-wide data warehouse for business reporting and analytics.
      a. The System shall provide mechanisms for the export of all data to the District data warehouse.

b) **Archiving Data**
   1) The System shall provide mechanisms for the archival of data to external media utilizing predefined business rules.

c) **Data Availability**
   1) All data entered or uploaded into the System shall remain the property of the District and not to be used without its written permission.
   2) The System shall be able to associate data to predefined retention schedules. Retention schedule shall be permanently tied to the data but retention schedule, itself, can be subject to change.

6 Business Continuity and Disaster Recovery

a) The System shall provide full data back-ups on a predetermined schedule and provide recovery capabilities.
b) The System shall provide transaction-level recovery up to a known time period.
c) The System shall have its business continuity plan tested on a regular, predetermined timeframe.

7 Implementation Plan and Schedule

a) **Data Conversion**
   1) Vendor shall provide the framework, tools, guidance and validation methods for the conversion of existing District data to a format compatible with the System.
   2) Vendor shall load converted data into the System as required to thoroughly test and prepare the System for production deployment.

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By signing below, I acknowledge that I have read and understand the requirements as set forth in this document. My signature also certifies that documentation will be provided wherever the System does not fully meet any of the requirements set forth in this document.

_____

Print Name

_____ _____

Sign Name Date

8 Appendix A.

Sampling of applications with which the System may need to interface. Also included is the estimated time for application replacements.

1. **Human Resource Information System (HRIS)**
    a. This is a PeopleSoft 8.8 application on Oracle 9.2.
    b. HRIS is scheduled for replacement by 2020.
2. **Electronic Time Sheet (ETS)**
    a. This application was developed by a 3rd party.
    b. This application uses an Oracle 11.2 database.
    c. This application is scheduled for replacement with the HR Replacement project.
3. **Payroll**
    a. This is a PeopleSoft 8.8 application on Oracle 9.2.
    b. Payroll is scheduled for replacement by 2020.
4. **Customer Watch**
    a. This is our customer billing system.
    b. Written in Java; we are currently on Java 8. The development philosophy is to stay consistent with each major Java release.
    c. This application uses an Oracle 11.2 database.
5. **Document Management System (DOX)**
    a. This is our District-wide document management application.
    b. It is written in Active Server Pages (ASP) on .Net framework.
    c. It is being updated to a Ruby-on-Rails application.
    d. This application uses an Oracle 11.2 database.
6. **Asset Information Management (AIM)**
    a. AIM provides asset tracking and management capabilities.
    b. It is written in ColdFusion 11.
    c. This application uses an Oracle 11.2 database.
    d. AIM is scheduled for replacement in 2020.
7. **General Work Order (GWO)**
8. **Paving Order System (POS)**
    a. GWO and POS are part of a group of work management applications. All or some of our work management applications are scheduled for replacement; estimated timeframe by 2020.
    b. It is written in ColdFusion 11.
    c. This application uses an Oracle 11.2 database.
9. **Contract Management Tool (EADOC)**
    a. This is a cloud application which provides document management and tracking for construction projects. It provides a work flow and permission-based roles for members of the engineering project team.
10. **Lab Information Management System (LIMS)**
    a. This application manages all laboratory activities.
    b. Written in ColdFusion 11 and other development languages
    c. LIMS is scheduled to be replaced by 2020.

   d. It uses an Oracle 11.2 database.
11. **Truck management & tracking (TruckTrack)**
   a. This is an in-house developed application (ColdFusion).
   b. This application tracks contract trucking firms that dispose of organic waste including the billing process.
   c. It uses an Oracle 11.2 database.
12. **Asset Management Tool (Maximo v7.5)**
   a. This application is used primarily by the Wastewater organization.
   b. This application uses an Oracle 11.2 database.
13. **EBMUD Data Warehouse**
   a. Our data warehouse runs on Oracle 11.2.
14. **Wells Fargo Bank**
   a. Financial partner used to perform a variety of banking functions.
15. **VISA**
   a. VISA is our current purchasing card partner.