REQUEST FOR PROPOSALS:

CLOUD-BASED LABORATORY ELECTRONIC TEST ORDER AND RESULT PORTAL

March 10, 2015

www.aphl.org

8515 Georgia Avenue, Suite 700

Silver Spring, Maryland 20910

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1. Who is APHL?

The Association of Public Health Laboratories (APHL) is a membership organization in the United States representing the laboratories that protect the health and safety of the public. In collaboration with members, APHL advances laboratory systems and practices, and promotes policies that support healthy communities. APHL serves as a liaison between laboratories and federal and international agencies, and ensures that the network of laboratories has current and consistent scientific information in order to be ready for outbreaks and other public health emergencies. Membership consists of local, territorial, county and state public health laboratories; environmental, agricultural and veterinary laboratories; and corporations and individuals with an interest in public health and laboratory science. APHL is a non-profit, 501(c)(3) organization with a history of over fifty years.

For over ten years, APHLs informatics program has dedicated itself to data standards development and implementation, public health data messaging, and the deployment of novel tools to simplify some of this work. The deployment of APHL's Informatics Messaging Service (AIMS), a HIPAA compliant, and FEDRAMP certified cloud-computing platform, has allowed APHL to look at solutions that may sit outside the traditional highly standardized, integrated health data exchange model.

2. Project Overview

Overview

APHL, in cooperation with the U.S. Centers for Disease Control and Prevention (CDC), Division of Tuberculosis Elimination (DTBE) is accepting proposals for a cloud based electronic test order and result (ETOR) portal, referred to in this RFP as the "lab portal".

This Request for Proposal (RFP) seeks to identify a commercial off the shelf (COTS) lab portal that APHL can host on its cloud-based platform known as AIMS (see Appendix A). The end goal of this project is to support bidirectional communication between requesting facilities and their public health laboratories (PHLs) for test orders and corresponding results using a web interface to facilitate these transactions. The selected system must be flexible enough to serve as a centralized solution, allowing both intrastate and interstate communication from a single portal instance on AIMS.

Desired expertise and approaches include:

- Proven cloud-based development and deployment expertise
- Ability to redesign a traditional single to many portals to serve as a "many to many" lab portal solution (many providers to many PHLs based on profiles and user access controls)
- Strong project management and group facilitation skills
- Clear development lifecycle methodology

Defining the Problem

Since 2008, APHL has worked with PHLs and partners at CDC to implement a clean bidirectional approach for sharing test orders and results between a requesting facility and a testing facility. There have been many small successes along the way, but standardized data exchange for ETOR using nationally recognized standards has not been widely adopted. PHLs know that this capability is vital in order to streamline communication with their providers and other PHLs, to better support

continuity of operations planning and to align with federal regulations such as Meaningful Use, but the complex nature and cost of implementing highly standardized ETOR capability has meant that many laboratories must forgo this capability or implement something locally. Although standards - based reporting using HL7 is the ultimate goal, information technology services are a mission-critical component of a PHLs operations, and a more attainable solution for ETOR must be identified.

Envisioning a solution

The use of a web portal for ETOR at PHLs and within the provider community is a tried and true method for exchanging test orders and results using an intermediary system. Usually, the portal resides at a single PHL and the providers who interact with that PHL use the portal to communicate with the lab to send test requests, get status updates on requests, and retrieve results. APHL and CDC would like to take this model to the next level by deploying a centralized web portal on AIMS. Using the "Software as a Service model, the lab portal would be available to PHLs at all levels regardless of their chosen Laboratory Information Management System (LIMS) or technical support capability. The solution must be flexible enough for PHLs to use as a standalone service or interfaced with a variety of proprietary or open source LIMS.**RFP Process Overview**

Confidentiality and submitted response material ownership

This RFP is both confidential and proprietary to APHL, and APHL reserves the right to recall the RFP in its entirety or in part.

All information submitted in response to this RFP will be treated as confidential and will only be used to assist APHL in selecting the appropriate solution for this project. APHL will not share responses outside of APHL or the RFP review and selection committee (made up of APHL staff, APHL members and CDC project partners).

Respondents to this RFP will not include or reference this RFP in any publicity without prior written approval from APHL. All responses to the RFP will become the property of APHL and will not be returned.

Eligibility

This is an open and competitive process.

Contact for RFP

Respondents are to submit all correspondence in regards to the RFP, including questions or clarifications via email to:

- Michelle Meigs: Manager, Informatics Operations: Michelle.Meigs@aphl.org
- Anne Gaynor: Manager, HIV, Hepatitis, STD and TB Programs- Anne.Gaynor@aphl.org

APHL will post questions received from interested parties, together with the answers provided by APHL or CDC staff to APHL's procurement website (www.aphl.org/rfp).

Anticipated RFP Schedule

At this time, APHL anticipates the following schedule:

March 10, 2016	– RFP issued
March 16, 2016	– Letter of intent due to APHL (see: Confirmation of Intent to Respond)
March 22, 2016	– Last day to submit questions (exceptions may be granted)
April 11, 2016	– RFP responses due
April 18, 2016	– Proposal review and follow-up completed
April 25, 2016	– Final review completed; APHL will notify successful candidate within 7 days

APHL will communicate any modification to this schedule on www.aphl.org/rfp, APHL's procurement website.

Response Submittal

Confirmation of Intent to Respond

APHL requests that prospective bidders submit a brief email statement indicating an intent to submit a proposal. Prospective bidders must send this email statement to the email addresses identified in the Final Response section below using the subject line: CONFIRMATION OF INTENT TO RESPOND: APHL ETOR PORTAL. APHL must receive this by **5:00 pm EST on March 16, 2016**.

Final Response

APHL must receive complete responses by **5:00 pm EST, on April 11, 2016**. Applicants may send proposals by the following methods:

- Via email using the subject line: SUBMISSION OF RFP RESPONSE FOR APHL ETOR PORTAL to:
  - Michelle.meigs@aphl.org
  - Anne.Gaynor@aphl.org
- United States Postal Service (USPS)- Priority / Express Mail or Federal Express (FedEx); addressed to:

  Association of Public Health Laboratories
  Attn: ANNE GAYNOR
  8515 Georgia Avenue, Suite 700
  Silver Spring, MD 20910

APHL will send an email acknowledging the receipt of your application; if you do not receive an acknowledgement within 48 hours, please email the RFP points of contact above to confirm receipt.

Questions

All questions must be received by 5:00 pm EST on March 22, 2016. APHL or a subject matter expert will respond directly to the questions on an individual basis as APHL receives them. All questions, together with the answers provided will be posted to APHL's procurement website by March 31, 2016 (**www.aphl.org/rfp**).

Timeline to Award

APHL will close the RFP response period at 5pm EST on April 11, 2016, and will evaluate responses immediately thereafter. During this time the evaluation team may request a phone interview with prospective candidates. APHL will notify the point of contact indicated on the response if we request an interview.

APHL anticipates awarding the project to the successful respondent by no later than April 29, 2016. Once awarded, APHL may request a meeting with the selected respondent prior to development or ratification of a contract. From the meeting, APHL will permit inclusion of changes that may arise in deliverables or conditions of the implementation. APHL will finalize a detailed contract, which will include the full terms and conditions of the project as part of the contract negotiations. APHL will indicate the starting and ending effective dates and key deliverable milestone in the contract.

Evaluation of Responses

Initial Review

APHL staff, led by the Manager of Informatics Operations, will conduct an initial review of all proposals for completeness. Any application that is incomplete on the RFP response due date (see the Anticipated RFP Schedule section above) will not be considered and will not receive a formal evaluation.

Evaluation Team

A team of four (4) experts from CDC and five (5) APHL members will review completed proposals. APHL staff will not perform a formal proposal evaluation.

Subject matter experts from CDC and APHL will be identified and selected based on their familiarity with laboratory informatics and ETOR workflow. APHL's Senior Director for Public Health Systems will have final approval over the selected review team's composition.

Evaluation Criteria

Each member of the evaluation team will evaluate proposals against the 33 questions or criteria found in Attachment C, the ETOR Portal RFP Scorecard and will assign a numeric score from zero (0) (indicating a 'poor' response) to four (4) (indicating an 'outstanding' response) to reflect that evaluator's assessment of the responsiveness of a proposal to each question or criterion. The evaluator's will assign score using the following categorizations:

- *Poor* (0 points) – The respondent's proposed approached neither meets the requirements set out in the Proposal Response Elements section of this RFP nor demonstrates more than a minimal understanding of the subject matter.
- *Marginal* (1 point) – The respondent's proposed approach does not meet the requirements set out in the Proposal Response Elements section of this RFP but does demonstrate a baseline understanding of the subject matter.
- *Good* (2 points) – The respondent's proposed approach meets the requirements set out in the Proposal Response Elements section of this RFP and demonstrates the necessary understanding of the subject matter.

- *Excellent* (3 points) - The respondent's proposed approach exceeds the requirements set out in the Proposal Response Elements section of this RFP and demonstrates a deep understanding of the subject matter.
- *Outstanding* (4 points) - The respondent's proposed approach greatly exceeds the requirements set out in the Proposal Response Elements section of this RFP and demonstrates a thorough and comprehensive understanding of, or an expertise in the subject matter.

The raw scores will be weighted in such a manner so that the 132 maximum possible raw score points will be converted into a maximum possible weighted score of 100 points. APHL is currently finalizing the weighting mechanism and will post the updated RFP Scorecard on www.aphl.org\rfp prior to the date that responses are due.

Post-Evaluation Process

APHL will notify the successful respondent on or before April 25, 2016 and will post the awardees name on APHL's procurement website, www.aphl.org/rfp on that same day. Unsuccessful applicants will receive notification of these results by e-mail or by U.S. mail within 30 days of the date the name of the winning vendor is posted.

All applicants will be entitled to utilize APHL's RFP Appeals Process to formulate a protest regarding alleged irregularities or improprieties during the procurement process. Specific details of this policy are located on the procurement website.

Funding Mechanism and Project Timeline

Conditions of Award Acceptance

The eligible applicant must be able to contract directly with APHL or have an existing relationship with a third-party organization that can contract directly with APHL on behalf of the laboratory.

The successful respondent will receive funding through a contract agreement with APHL. APHL anticipates that it will financially support this project through December 2016, through funding provided by the CDC under Cooperative Agreement Number 1U60OE000103 (CFDA No. 93.322) (the Cooperative Agreement). CDC provides funding under the Cooperative Agreement on a July 1 to June 30 budget year cycle. As a result, APHL expects to issue two separate contracts for this project: the first contract will cover work performed by the successful respondent through June 30, 2016 and the second contract would cover work performed through December 31, 2016.

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3. Term and Scope of Project

Phase One

- This phase of the lab portal project will run through June 30, 2016. Although the respondent and APHL will develop a detailed SOW based on final negotiations, the successful respondent should plan to focus on the following tasks.
- Development of a project charter and project development plan through December 2016. This includes submitted documentation of risks and dependencies

    - **Note**: The project team has not selected a lifecycle methodology for managing the project, but the successful respondent will have clearly identified their selected approach with a clear explanation of how they will apply it to this project.
- Although this portal will eventually support all lab areas, this first approach will focus on Mycobacterium Tuberculosis test orders and corresponding results. To that end, the awardee will
    - Attend at least one in person meeting and biweekly conference calls with APHL staff, AIMS consultants and key PHL and CDC stakeholders to:
        - Determine the key features and deployment architecture to support Mycobacterium Tuberculosis test orders and corresponding results as a "stand alone" system (no LIMS integration).
        - Determine the key features and deployment architecture to support Mycobacterium Tuberculosis test orders and corresponding results when interfaced with a LIMS.
    - Final documentation of the agreed upon enhancements, including key stakeholders and user stories.
- Begin developing agreed -upon modifications and enhancements based on final scope.
- Deployment of development/test system in AIMS- along with participating in any agreed -upon security assessments.
- If not already supported out of the box, work with APHL staff and AIMS partners on ensuring that the "many to many" centralized hosting architecture is designed, and documented.
- Draft deployment plan through December 2016

Phase Two

If APHL receives the anticipated Cooperative Agreement funding for work beyond June 30, 2016 the successful respondent will continue with the development and deployment activities above, and will include the following high-level success criteria-

- Deployment plan through December 2016
- Engagement of identified partners who will utilize the lab portal as the TB test requesting facility to the PHL (up to 3 requesting facilities).
- Development of a comprehensive test plan for both the requesting facility and the testing facility (PHL).
- End user testing of enhancements and features as they are developed
- End to end testing of functionality in "stand alone" mode- no LIMS integration/interface.
- End to end testing of functionality in "LIMS integration mode".
- End to end testing of the many to many relationship in development or test environment (APHL will serve as a proxy facility)
- Finalization of training documents for key PHL and requesting facility staff
    - Training approach agreed upon
- Deployment of the production system on AIMS based on deployment plan.
- Finalize a maintenance and support plan

- Work with key staff at APHL and CDC to determine the scope and cost to add additional test service areas and the addition to up to 7 additional PHL sites, with full LIMS interface.

Beyond Phase Two

There is the potential for this project to continue to grow, in both scope and visibility, beyond the anticipated December 31, 2016 conclusion envision by this RFP. If this occurs, APHL would have to comply with the terms of the Cooperative Agreement funding conditions and applicable federal law and regulations (which might require a new round of competitive bidding).

At this time, APHL cannot guarantee additional funding past June 30, 2016, but the successful respondent must be open to scope modification, further contract negotiation and a continuing project timeline.

4. Proposal Response Elements

Sections and Page Counts:

General narrative: **15 pages**

Key System Information**: 4 pages**

Functional Requirements: **2 pages, plus the Excel spreadsheet**

General Narrative

Respondents may submit up to 15 pages (single-spaced, using a 12-point font and no less than 0.5" margins) of narrative to meet the following elements of the proposal.

Executive summary

Please provide a summary of the proposal being submitted. In the summary, the respondent will identify the design, development approach and main services offered in the proposal.

Organization/management capabilities

Respondents should describe their company's organizational structure and provide a brief history of their business. *Note: Respondents may, if they choose, supply additional supplemental documents that describe their company, products, mission, etc. These must not be included in the main narrative, and will only be viewed as supplemental information and will not count as part of the 15-page limit.*

Examples of successful implementation

Respondents should include a description of their relevant experience developing and implementing web based resource systems as well as any relevant experience developing data visualization tools (at both the granular and aggregate data level). Please provide information about specific platforms used, dates implemented, and customer satisfaction.

Project team and staff qualifications

The respondent must provide a project team organizational chart, followed by an introduction and description of key personnel that the vendor will assign to the project. Each key personnel must be an employee of the respondent or be clearly identified as a subcontractor.

Clearly defined roles, responsibilities and an estimated time allocation for each key personnel is required. Resumes should be included for all key personnel; these should be submitted as part of an appendix, and will not count as part of the 15-page limit.

Timeline

Respondents should provide a detailed proposed timeline of events through December 31, 2016. A secondary timeline beyond 12/31/2016 may be included if the respondent wishes to outline future project possibilities, but this information will not be considered during the formal scoring of proposals.

Training

Respondent must include their proposed approach to training client end users, laboratory users and administrators. Please provide a list of all materials and user guides that will be included as part of the project deliverables, and identify those materials already developed based on the core system, versus those that may need to be developed specifically for this project.

Respondent should outline the current or preferred approach to online instructions and tools. These include help functions such as video clips, hover boxes, etc. The implementation of such functions is open for discussion. The end goal is for the end user to be able to complete basic functions within the portal, without administrator assistance.

References

Respondents should include a list of clients, organizations or institutions that can be used as references. At least one reference should be from an organization where a similar project was developed. The respondent's references should be capable of verifying information supplied by the respondent in their proposal.

APHL may contact selected references to determine the quality of work performed, competency of personnel assigned to the project, etc. APHL will provide the results of the reference checks to the evaluation team and they may use this information when scoring the written proposal.

The data required for each reference should include:

- Company Name and address
- Contact person name, email, and phone number
- Name of the project

Budget

The respondent will provide a detailed cost proposal to accomplish the proposed scope of work. The budget must encompass all management, design, development (enhancements costs), documentation, production, and software acquisitions necessary for the deployment and ongoing maintenance of the cloud-based ETOR portal. Please ensure that you identify those items that are one-time acquisition costs, those items that have reoccurring or annual fees and the proposed annual percentage increase.

If available, APHL welcomes a total cost of ownership forecast, this can be included as part of an appendix.

Key System Information

Respondents may submit up to 4 pages (single-spaced, using a 12 point font and no less than 0.5" margins) of narrative answering the following questions regarding the systems architecture and suitability for deployment on AIMS. Please include any additional system documentation to support your answers as an Appendix.

Architecture

- Describe the system security attributes and processes that will be used to safeguard unauthorized use and access to Protected Health Information (PHI)

- Was the system developed to be hosted on physical hardware or cloud architecture (or both)?
- If the system is designed for cloud architecture:
- Please provide details on which cloud provider features, functions and services the system makes extensive use of? AWS example services: Simple Notification Services (SNS), Simple Query Service (SQS), Relational Database Service(RDS)
    - Please provide details of all services that will process PHI
    - Please provide details of the estimated transaction volume/utilization for each of the services used.
- What operating system(s) are needed on the servers/instances?
    - What database server(s) are needed?
        - Please note if Transparent Data Encryption (TDE) will be utilized for encryption of the database. Discuss any other non-standard/special components that may be needed.
- Is all traffic between the application server(s) and database server(s) encrypted or can database specific methods be implemented without adverse effect on the application?
- Are there any specific requirements concerning encryption of data at rest?
- For example - application server log files that may contain Patient Identifiable Information or other sensitive information.
- Will all data movement between servers/instances, the customers, and back end solutions be encrypted? Please provide details of each part of the process.
- Are there specific requirements for system resource backups?
- Provide details of high availability or automated failover needs.
- Is there anything in the design of the system that makes it unable to conform to standard HIPAA and FISMA moderate compliance checks and allows it to generally function within a hardened environment that does not allow broadcast traffic?

Sizing of resources

- How many distinct servers or instances will be required to operate the system?
- What is the required storage space per server/instance?
- Describe the projected 1 year and 3 year storage space based on continuous onboarding and expansion of the product.
- Does the system require any additional shared storage?
- How much memory should be allocated per server/instance?
- What are the projected average and peak monthly bandwidth needs?
    - Do bandwidth needs vary greatly?
- Is the system designed to scale based on demand?

Development and System Management

- Does the system support continuous integration and automation?

- Will this application need to take the form of a template that needs to be launched for numerous customers or services (e.g. AWS CloudFormation, Puppet)? If yes, elaborate.
- The solution should be able to handle a vulnerability scan by the APHL Security Team without notice.
- Deployment must abide by the AIMS Production Readiness Checklist (see Appendix B).
- The system must be capable of incorporating version control and build testing before final production release.

Support and System Access

- When supporting the solution in a hosted environment, what type of connectivity is needed? Examples: VPN, SFTP, AWS Workspaces
- Will the application be adversely affected by monitoring and security software that is installed on the servers?
- Discuss ongoing user support approach
- Discuss approach to system maintenance and scheduled upgrades

Functional Requirements

A spreadsheet has been included as part of the RFP documentation outlining key functionality that we would like to see as part of a lab portal solution. The spreadsheet will be used to accurately compare functionality across respondents, but the implementation of these requirements are open to interpretation and alternative functionality may be identified as such and described in the Comment field of the spreadsheet.

Respondents may include up to 2 additional pages of narrative to further explain the approach and the solution suggested.

APHL is looking for innovative ways to support the needs of its members and partners with this portal, and alternative approaches that enhance the described requirements will be considered.

APHL STRONGLY RECOMMENDS THAT THE RESPONDENT INCLUDE MOCK UPS AND DIAGRAMS OF THE PROPOSED SOLUTION. THIS INFORMATION WILL NOT COUNT AS PART OF THE 15 PAGE LIMIT

5. Disclaimer and Other General Matters

This RFP is neither an agreement nor an offer to enter into an agreement with any respondent. Once evaluation is complete, APHL may choose to enter into a definitive contract with the selected RFP applicant.

APHL must ensure that the selected respondent is neither suspended nor debarred from receiving federal funds and that the respondent meets any other funding eligibility requirement imposed by the Cooperative Agreement. APHL's determination of whether the responded is eligible to receive Cooperative Agreement funding will be definitive and may not be appealed. In the event that APHL determines that the selected respondent is ineligible to receive Cooperative Agreement funding, APHL will nullify the contract or will cease negotiation of contract terms.

Each respondent will bear its own costs associated with or relating to the preparation and submission of its

application. These costs and expenses will remain with the respondent, and APHL will not be liable for these or for any other costs or other expenses incurred by the respondent in preparation or submission of its application, regardless of the conduct or outcome of the response period or the selection process.

6. APPENDIX A- AIMS INFORMATION

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES™

AIMS

APHL Informatics Messaging Services (AIMS) Platform

AIMS is a secure, cloud based environment that accelerates the implementation of health messaging by providing shared services to aid in the transport, validation, translation and routing of electronic data.

7. Serving Public Health

The ability to share data efficiently and securely with diverse messaging partners is a critical capability for public health, however it is often difficult for the public health community to maintain multiple point-to-point electronic interfaces and accommodate ever-changing transport mechanisms. APHL developed AIMS in direct response to these challenges.

The AIMS cloud environment offers both software as a service (SaaS) and a platform as a service (PaaS). In other words, trading partners can leverage custom services and applications for message translation and transformation and set up alerts for notifiable conditions in electronic laboratory reporting (ELR) feeds, while also using AIMS as a platform for transport protocols and integration engine software.

Connecting Partners

Our trading partners include federal agencies, the United States Uniformed Services, regional laboratories and hospitals, State Health Information Exchanges (HIEs), and more than 45 State public health laboratories and agencies. Our list of trading partners is a testament to the strong relationships that we have built with the public health community, including the Centers for Disease Control and Prevention (CDC), the U.S. Navy, the Association of Territorial Health Officials (ASTHO), and the Office of the National Coordinator (ONC).

CDC Centers for Disease Control and Prevention

The Office of the National Coordinator for Health Information Technology

MAYO CLINIC

PAML

Cerner

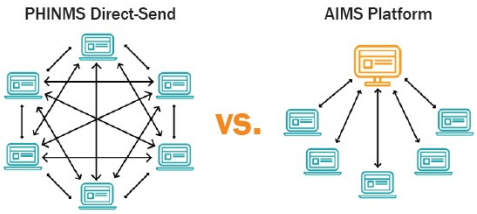
Quest Diagnostics

Enabling Data Exchange

AIMS has transported close to 2 million messages. Examples of data currently exchanged through AIMS include:

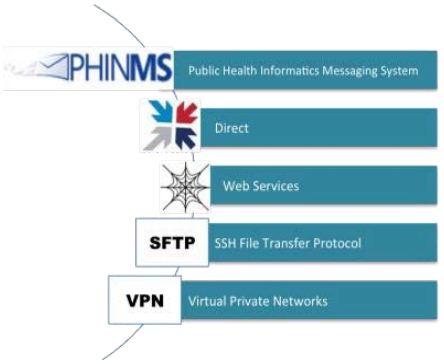
- Aggregated Influenza test data from public health laboratories to CDC,
- Vaccine-preventable disease reports from testing centers of excellence to CDC,
- Biological threat data from laboratories within the Laboratory Response Network to CDC,
- Immunization data exchange among several public health jurisdictions,
- Electronic laboratory reporting between eligible hospitals and their respective jurisdictions. ☐ Whole Genome Sequencing through the Advanced Molecular Detection program.

Gaining Efficiencies



Routing messages through the AIMS Route-Not-Read (RnR) hub reduces certificate management and message routing tasks for individual trading partners. Each messaging partner updates credentials for a single recipient or poller, rather than maintaining connections to multiple senders and pollers. Once a trading partner is on AIMS, they can send and receive with any trading partner already on the Hub with minimal effort.

In addition, the translation and transformation services that AIMS offers make it easier for agencies and laboratories to exchange data with a variety of senders and receivers. AIMS provides interoperability between a variety of transport protocols, which allows a sender using one protocol to send data securely to a receiver that uses another. Transport protocols that the Hub can process include PHINMS, Direct, Web Services, AWS S3, SFTP and VPN.

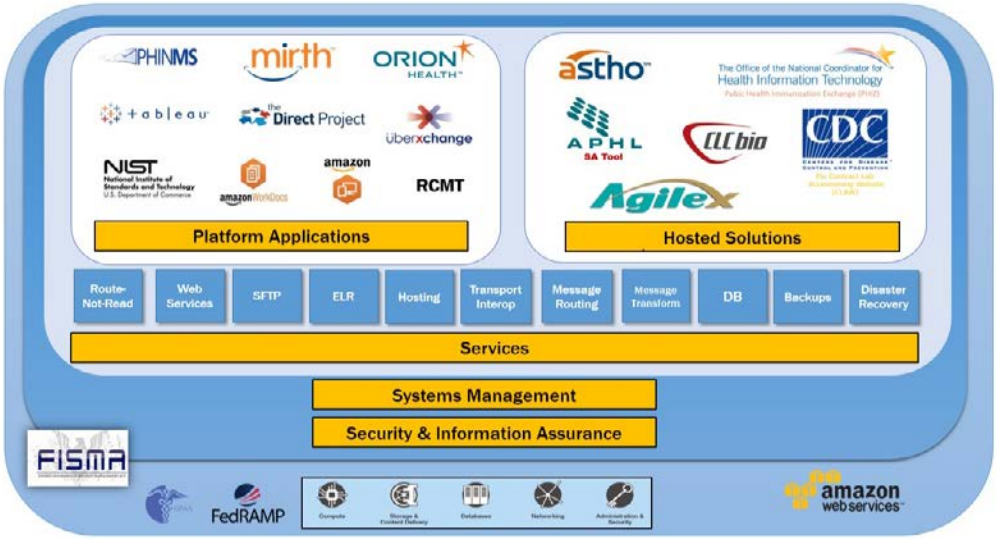


<u>Additional benefits to using AIMS include:</u>

- ✓ Common architecture and services
- ✓ Shareable Open Source architecture
- ✓ Centralized processing and message routing
- ✓ Real-Time monitoring and audit systems
- ✓ Reduced data translation and transformation complexity
- ✓ Reduced development and support costs
- ✓ Flexible capacity technical infrastructure
- ✓ 5 Year authentication certificates
- ✓ Vocabulary and HL7 message support
- ✓ Experienced and dedicated technical support

Strengthening Security and Compliance

AIMS has built a secure environment using state-of-the-art monitoring and information assurance tools. Each tool in the suite has a proven record of accomplishment for integration with Amazon Web Services to ensure the highest level of integration and security. The AIMS infrastructure complies with HIPAA, Meaningful Use, FedRamp, FISMA, and U.S. International Traffic in Arms Regulations (ITAR). AIMS has conducted extensive disaster recovery testing, penetration tests and security audits.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Uberxchange
NIST
National Institute of Standards and Technology
U.S. Department of Commerce
amazon WorkDocs
amazon
RCMT
Platform Applications
astho
The Office of the National Coordinator for Health Information Technology
APHL
SA Tool
CLCbio
CDC
AgileX
Hosted Solutions
Route-Not-Read
Web Services
SFTP
ELR
Hosting
Transport Interop
Message Routing
Message Transform
DB
Backups
Disaster Recovery
Services
Systems Management
Security & Information Assurance
FISMA
FedRAMP
amazon web services

8. APPENDIX B-AIMS Production Readiness Checklist

Readiness Criteria	Responsible Person and/or Document Name	Signed Off By	% Complete - N/A if does not apply, N/C if no change	Comments: Describe remaining work and estimated completion date
1. Hardware 1.1 Hardware requirements including disk space requirement have been given to support groups for resource allocation.				
1.2 The installation and configuration requirements have been met based on requirements: - Unix OS - Windows OS - Network connectivity - Redundancy system - Backend printing - Offline storage for reports and audit log - Database (version, size, etc) - Infrastructure software/middleware Application software				
2. End user device - 2.1 Required hardware devices (PCs, printers, etc.) and software have been installed by End Device support groups and are functioning as expected.1				
3. Performance 3.1 Service Level Agreement (SLA) on application performance has been defined, documented, communicated, and accepted by the customers.				
3.2 Performance requirements have been given to and reviewed by server support groups for system configuration.				
pre 3.3 Application load testing with production ready configuration has been performed. (modifications to software and instance may occur)				
3.3 Satisfactory capacity estimates have been completed based on load test.				
3.4 Plan to monitor performance has been developed and communicated.				
3.5 Plan for application, system, database, and network tuning has been defined and communicated.				
4. Support 4.1 On-going support has been adequately staffed. Roles and responsibilities have been defined, documented, communicated, and accepted by all parties involved: Platform support (servers, mainframe), DBA, Operations End device support Identity & Access Support Helpdesk Application support User support				
4.2 System/Application availability information has been documented and communicated to the appropriate groups per project plan. Information required includes: - Service level agreement (SLA) - Hours of availability - Application support contacts - Database support contacts - System support contacts - User community contacts - Backup schedule - Maintenance window - Downtime procedures Communication procedures: who needs to be notified in the event of scheduled/unscheduled downtime and how				

- 4.3 Customers have reviewed support documentation and have agreed to SLA.				
5. Enterprise Architecture 5.1 Architectural review has been completed with satisfactory results or exception request has been approved.				
6. Security 6.1 Security review has been completed. Required action items identified have been completed.				
6.2 Required production access accounts have been set up with appropriate security profile (e.g., certificates).				

Readiness Criteria	**Responsible Person and/or Document Name**	**Signed Off By**	**% Complete - N/A if does not apply, N/C if no change**	**Comments: Describe remaining work and estimated completion date**
7. Testing 7.1 Detailed information about the release, including fixes and any other changes made to the application, has been communicated to test personnel.				
7.2 Test completion criteria (e.g., 98% test execution, 95% test success, no blocking defects) have been documented and agreed upon by Test personnel, Application Support and Customers.				
7.3 The level of test results documentation (i.e., how much detail) have been documented and agreed upon by Test personnel, Application Support and Customers.				
7.4 Functional Testing: Application feature/functionality has been tested and is functioning as expected.				
7.5 Integration Testing: Interfaces have been tested and are functioning as expected.				
7.6 Business Cycle Testing: Transactions and activities that are date sensitive and occur daily, weekly, or monthly, have been tested and are functioning as expected.				
7.7 Compatibility Testing: New or changed systems have been tested on different software and hardware configurations.				
7.8 Installation Testing: Installation/Upgrade procedures have been tested with no problems.				
7.9 Performance Testing: Application performance meets the agreed Service Level Agreement (SLA) with the customers: - Response time - Throughput volume - Passive/active users - Peak/off peak processing capacity Transaction process rate				
- 7.10 Regression Testing: Fixes and the overall integrity of the software have been tested with no new problems.				
7.11 Failover/Recovery Testing: The failover/recovery capability from a variety of hardware, software, or network malfunctions has been tested and is functioning as expected.				
7.12 Impact on other systems has been assessed and no negative impacts have been discovered.				
7.13 All High Priority problems as defined by project are resolved or workarounds have been developed and accepted by users.				
7.14 The test completion criteria (see. 7.2) have been met, and the following information has been communicated to and accepted by previously defined stakeholders: - Test variances (expected results vs. actual results) and reasons for the variances - Issues list (resolved/not resolved) Test adequacy (reasons for running or not running defined tests)				

- 7.15 All previously defined test documents have been completed and distributed to the appropriate groups.				
8. User Acceptance 8.1 User acceptance testing is completed.				
8.2 End to end business functionality (e.g. workflow and key business process) has been tested by the users and is functioning as expected.				
8.3 Sign-off for issues not fixed has been completed.				
9. User Guide and Training 9.1 Training documentation for users and application support has been completed and distributed per training communication plan.				
9.2 Designated staff has received training and has demonstrated required competency.				
9.3 User documentation has been completed or updated.				
10. Help Desk Documentation and Training 10.1 Helpdesk documentation has been completed or updated and distributed two weeks in advance of release date.				
10.2 Helpdesk staff has received training and has demonstrated required competency.				

Readiness Criteria				
11. Installation Guide 11.1 Detailed instructions for the implementation team have been provided. These include: - Architecture overview (hardware, software) with diagram and interfaces - Environmental setup and configuration requirements - Installation procedures - Backout procedures - Interdependency details Logging retention/usage log availability	**Responsible Person and/or Document Name**	**Signed Off By**	**% Complete - N/A if does not apply, N/C if no change**	**Comments: Describe remaining work and estimated completion date**
12. Implementation Plan - 12.1 The package and the installation scripts can be installed repeatedly.				
12.2 Stability has been defined and achieved per plan.				
12.3 A detailed plan for moving the system from Test to Production has been developed, documented, and communicated per project plan. The plan should include: - Steps to move from test to production - Event log description - Installation accuracy verification - Application server impact analysis- Database impact analysis - Implementation Support - coverage during implementation period, escalation procedures, bug tracking - Post implementation verification - Post implementation support - support resource schedule, bug tracking, change management, escalationprocedures - Contingency plan - Implementation dates do not fall on "make no changes" dates. Update the Resource Usage Calendar if appropriate Notify IT-servicechange@u if the change warrants the attention of executive and directors in UW-IT				

13. Customer Communication Plan 13.1 Detailed customer communication plan has been developed, communicated, and accepted. This plan should include: - Pre go-live communication plan - Go-live communication plan - Post go-live communication plan				
- 13.2 Detailed information about the release, including fixes and any other changes made to the application, has been communicated to customers.				
13.3 Means of user feedback have been identified.				
14. Operations Guide 14.1 Detailed operations guide or update has been provided to production support personnel. This guide should provide information to support personnel to troubleshoot and maintain the application in the production environment. The guide should include: - Application online/real time operations - Batch job schedules identified, along with the criticality of successful completion of each task- Database maintenance schedules - Data retention requirements - Backup requirements and procedures - Disaster recovery plan (include application and database recovery) - Remote support capabilities - Monitoring, alarming, messaging - Troubleshooting tips - Processing and/or data dependencies (e.g., location of data used by the application) - End user devices and hardware Vendor contacts/maintenance agreement numbers				
- 15. Detailed disaster recovery plan has been developed, communicated, and accepted.				

9. APPENDIX C- ETOR RFP SCORE CARD

Scoring: poor- 0; marginal- 1; good- 2; excellent- 3; outstanding- 4			N/A if not applicable	
Evaluation Area	**Criteria**	**Score**	**Weighted Total**	**Comments**
General	**General**		**xx%**	
Project Goals/Objectives	**Project Goals/Objectives**		xx%	
Project Goals/Objectives	Whether the response addresses the objective: The deployment of a cloud based, centralized web portal on AIMS using the "Software as a Service model.			
	Whether the response addresses the objective - The solution can be available to PHLs at all levels regardless of their chosen Laboratory Information Management System (LIMS) or technical support capability			
	Whether the response addresses the objective - The solution is flexible enough for PHLs to use as a standalone service or interfaced with a variety of proprietary or open source LIMS.			
	Section Total	**0**		
Budget/ Cost	**Budget/ Cost**		xx%	
Budget/ Cost of project	Are detailed costs submitted as required?			
	Are costs broken out by project phase?			
	Whether the budget encompasses cost for all design, production, and software acquisitions necessary for the development			
	Whether the budget encompasses cost for ongoing maintenance and user support			
	Is the budget easy to follow and unambiguous.			
	Section Total	**0**		
Personnel/Staffing	**Personnel/Staffing**		xx%	
Personnel/Staffing- General	Project team and staff qualifications			
	Project team organizational chart			
	Estimated time allocated for each key personnel.			

Staffing Capability	Does the consultant demonstrate that their staff is of sufficient size and has the experience to complete the project according to the project plan they submitted?			
Project Management	Does the consultant provide a plan for effectively and efficiently meeting project objectives?			
	Does the consultant clearly outline a preferred software development lifecycle approach?			
Quality Assurance	Does the consultant address how they will ensure project quality?			
Technical Depth	Does the consultant demonstrate successful experience in implementing similar projects?			
	Section Total	**0**		
Time	**Time**		XX%	
Timeline	Does the consultant provide a detailed timeline of events?			
	Does the proposal describe a plan that is likely to meet APHL time requirements?			
	Section Total	**0**		
Technical	**Technical**		XX%	
Technical solution:	**Technical solution:**		XX%	
Does the technical solution demonstrate	Solid existing solution that can be easily be adopted for APHL use			
	Cloud based readiness and ability to meet stringent security guideline.			
	The ability to be used as a stand alone service or interfaced with a LIMS			
Does the response demonstrate	Technical understanding of the application/solution based on the needs outlined in the RFP.			
	Section Total	**0**		
Technical Requirements	**Technical Requirements**		XX%	
Mock ups and Diagrams	Does the response include mock ups and diagrams of the proposed solution in its response?			
	Do the mock ups and diagrams demonstrate creativity and understanding of the tool.			

Functional Requirements	Were the majority of the Functional requirements addressed in the solution?			
	What was the overall quality of the proposed solution to these requirements?			
Interface Requirements	Were the majority of the Interface requirements addressed in the solution?			
	What was the overall quality of the proposed solution to these requirements?			
System Requirements:	Were the majority of the system requirements addressed in the solution?			
	What was the overall quality of the proposed solution to these requirements?			
Security Requirements	Were the majority of the Security requirements addressed in the solution?			
	What was the overall quality of the proposed solution to these requirements?			
	Section Total	**0**		
Training, documentation	**Training, documentation**		XX%	
Training, documentation	Does the response include training materials and/or a clear training plan for end users?			
	Section Total	**0**		
	Total Score	**0**		