Technology Service Scope of Work

RxCheck Architecture and Technology Review and Recommendations

Improving Prescription Drug Collection and Reporting

IJIS Institute

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Your firm is invited to submit a proposal to conduct activities and produce work products that directly support the IJIS Institute as outlined in this Request for Proposal (RFP). This highly visible engagement will result in laying the foundation for the future roadmap of the RxCheck Hub and associated capabilities in improving data collection, sharing, and reporting aligned with federal regulations and state laws. As part of this effort, the selected firm will review and analyze every aspect of the current architecture, technology, and standards that align with the Prescription Drug Monitoring Programs (PDMPs) . The IJIS Institute encourages all member and non-member firms that possess the requisite skill sets and experience to submit a response.

A. BACKGROUND

The Current RxCheck hub and related architecture, technology environment, and associated National Information Exchange Model (NIEM) based specification was developed in the 2016 and 2017 timeframe. Since then, technological innovation has advanced, and new capabilities have been introduced in the marketplace to develop state-of-the-art, scalable, and interoperable solutions. The current architecture for the RxCheck hub can benefit from the latest technology and new architecture principles to help PDMPs in managing their data and sharing across state boundaries.

The Integrated Justice Information Systems (IJIS) Institute has been engaged in the program since 2005 when IJIS was asked to investigate interstate data exchange opportunities. IJIS is a non-profit organization that has worked to advance and facilitate technology in the public sector for over two decades. To propel the project forward, a committee composed of state PDMP administrators, federal personnel, and IJIS delegates was formed. This committee developed a set of reference documents for the PMIX data model. During subsequent years, they continued development, including technology and business rules. The PMIX specifications became known as the PMIX National Architecture using existing open-source communication and data standards. In 2007, a test pilot of the architecture facilitated the exchange of prescription data between two state PDMPs.

The PMIX specification became operational in 2010, exchanging test data between the Ohio and Kentucky PDMPs. Today, forty-seven PDMPs actively use the PMIX National Architecture for interstate data sharing as well as Health Information Exchanges (HIE) and Electronic Health Record (EHR) integrations.

By utilizing open standards, including the National Information Exchange Model (NIEM), the PMIX architecture design is capable, extensible, agile, and free of expensive commercial overhead costs. Supported by technical/project development from IJIS; policy and community engagement by the Institute for Intergovernmental Research (IIR) via the PDMP Training and Technical Assistance Center (TTAC): and countless hours of direct participation by PDMP administrators and their staffs, a powerful and robust architecture was created.

Since its inception, PMIX has a proven track record in identifying and preventing prescription drug misuse and is a powerful tool for public safety and public health.

PROJECT DESCRIPTION

The selected firm will conduct a detailed analysis of every aspect of the current solution and make recommendations to the IJIS team on the future architecture and technology roadmap that is standards-based, scalable, secure, interoperable, and cost-effective for ongoing maintenance and support. As part of this effort, the selected firm will also be required to help stand-up a functioning environment from the existing documentation, code base and environment.

B. PROJECT OVERVIEW

As part of the IJIS Institute's ongoing effort to audit the various programs and associated artifacts, the IJIS PDMP project team is looking for a firm to conduct architecture, technology stack, environment, application, and associated code review and provide recommendations for improvement with all the associated documentation.

The current application architecture and list of associated technology and standards is detailed below:

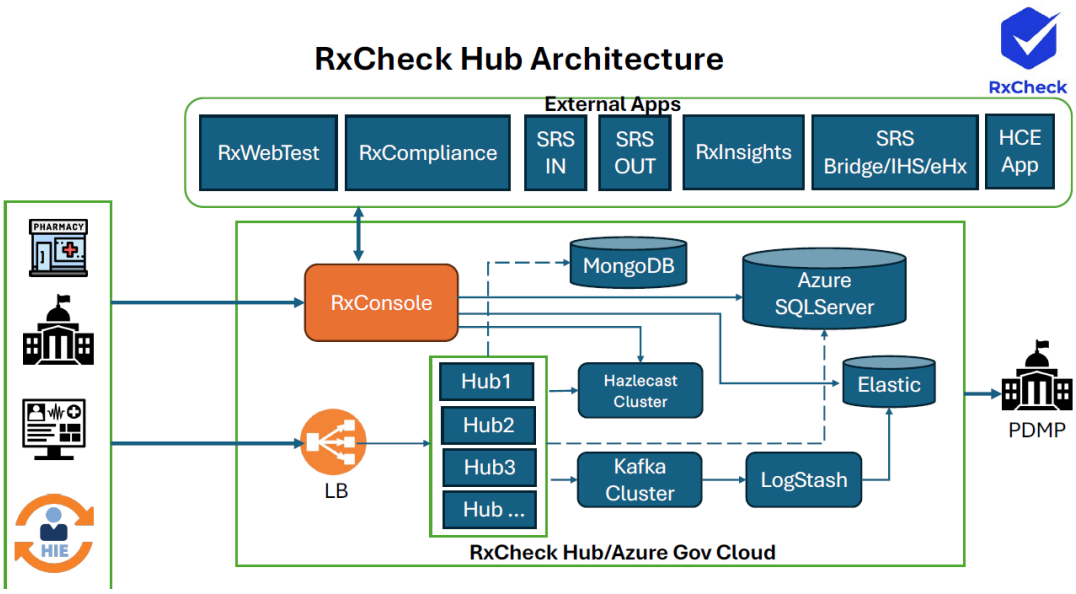

Figure 1 - RxCheck Architecture

RxCheck Technology Stack:

1. **Middleware**
   - *Java* – A widely used programming language
   - *Tomcat Servlet Container* - A popular high-level Apache project
   - *Spring Boot Framework* – Opensource, By VMware Inc
2. **Databases / Storage**
   - *MS SQLServer* – Managed Azure Instance from Microsoft
   - *MongoDB* – A widely used NoSQL database from MongoDB Inc.
   - *Elastic* – A widely adopted logging and search solution from Elastic Inc.
3. **Messaging**
   - *Kafka* – Opensource, a widely used queue and streaming solution from Confluent
4. **Container Orchestrator**
   - *Kubernetes* – Opensource, By Azure Kubernetes Service
   - *Docker* - Opensource
5. **User Interface**
   - *Angular / PrimeNG* – From PrimeNG
   - React – Opensource. Using in SmartCheck App

RxCheck Standards List:

- Prescription Drug Monitoring Program Exchange Specification V2 (PMIX2) build using National Information Exchange Model Version 4 (NIEM4)

- National Council for Prescription Drug Programs (NCPDP) SCRIPT Version 2017071
- Fast Healthcare Interoperability Resources (FHIR) versions 3, and 4
- JavaScript Object Notation (JSON)
- Simple Object Access Protocol (SOAP) and Representational State Transfer (REST) web services

Deliverable Summary

This engagement will minimally include the performance of the following activities and the production of the following work products.

1. Conduct a detailed review of the RxCheck architecture and current technology stack
2. Conduct an analysis of all the features and functions of the RxCheck hub, integrations with the state PDMPs, HIEs etc.
3. Conduct an analysis of all the applications and features associated with the hub, integrations, analytics, on-boarding process, configuration management console etc.
4. Review all the documentation currently developed for all aspects of the hub and associated technology
5. Review the current PMIX specification, WSDL, application code, and cloud environment configuration
6. Develop a gap analysis, recommendation, and future roadmap to leverage new technologies
7. Interview current provider if needed (Optional)
8. Present to the IJIS team the recommendations on a future roadmap
9. Other services that may arise

F. LOCATIONS

Virtual kick-off meetings will be coordinated with the selected subcontractor and the project team.

Conference calls and web conferences will be utilized as needed to facilitate real-time discussions and to vet project deliverables. These remote meetings will be provided by the IJIS Institute, so the contractor is not expected to incur connection costs.

It is anticipated much of the work required to develop the artifacts will be completed remotely at the contractor's desired work location.

G. DELIVERABLES

Deliverables will include, but not be limited to, the following work products:

1. Meeting Notes and workshop facilitation
    a. The selected contractor will be requested to develop meeting notes for each meeting and interview with key project stakeholders.
2. Weekly status report
    a. During the time the Specification (IEPD, Web Services – WSDL etc.) is being developed, weekly status reports will be required. Status reports will be used as discussion topics for the weekly conference call.

3. Reports.
    a. Architecture Review Report
    b. Infrastructure Review Report
    c. Application Features and Functionality Review Report
    d. Integration and other code Review Report
    e. Technology Stack Review Report
    f. Documentation Report
    g. Gap Analysis
    h. Recommendations for improvement to align with the latest standards and technology

H. MANDATORY STAFF SKILLS

1. Experience/understanding of Prescription Drug Monitoring Program systems and technology.
2. Experience in implementing NIEM and associated conformance rules.
3. Experience developing functional SOAP/RESTful service requirements.
4. Experience developing and implementing SOAP/RESTful solutions, including web services applications (experience with WSDL, WADL, WS-*, XML, JSON, and SOAP).
5. Experience developing and implementing ebXML.
6. Experience developing GRA Service Specification.
7. Experience creating graphical models of business use cases.
8. Experience developing functional service requirements.
9. Experience developing and implementing SOAP/RESTful, JSON solutions, including web-services applications (experience with WSDL, WADL, UDDI, XML, JSON, and SOAP).
10. Experience creating graphical models of business use cases.
11. Experience writing business scenario narratives.
12. Experience with the use of BPMN or similar open standards notation.
13. Experience creating UML diagrams.
14. Experience with SOAP/RESTful or other service identification.
15. Experience developing logical and conceptual models in a Service Oriented Architecture.
16. Experience with implementing middleware technologies like Tomcat Servlet Container, JAVA, Spring Boot Framework etc.
17. Experience with implementing database management systems like MS SQL, MongoDB, and associated technologies like ELASTIC.
18. Experience with implementing messaging technologies like *Kafka etc.*
19. Experience with implementing container technologies like Kubernetes, Docker etc.
20. Experience with implementing user interface technologies like Angular / PrimeNG, React, etc.
21. The candidate shall have seasoned skills and experience conducting work group facilitation and acquiring or refining requirements via group interaction.

I DESIRED STAFF SKILL

1. Experience/understanding of the PDMP, and health-related business processes.
2. Experience creating public safety system and healthcare data exchanges.
3. Strong writing skills
4. Strong presentation skills.
5. Strong workshop facilitation skills.

J TIMELINE

The primary period of performance for this engagement is expected to begin no later than July 21st, 2025, and end no later than October 31st, 2025.

Activity / Deliverable	Current Start Date	Current End Date
Issue RFP	06/16/2025	06/16/2025
Submit Question	06/17/2025	06/20/2025
Publish answers to questions	06/27/2025	06/27/2025
RFP Responses Due	07/11/2025	07/11/2025
Review, Select, and Notify	07/18/2025	07/18/2025
Finalize agreement	07/18/2025	07/28/2025
Project Kickoff	08/01/2025	08/01/2025
Selected Firms Background Check Process	08/04/2025	08/08/2025
RxCheck solution architecture, technology, and documentation overview by existing contractor/s	08/11/2025	08/11/2025
Read only access to all the environments and project/solution related assets	08/11/2025	08/11/2025
Conduct current technology assessment	08/12/0225	09/12/2025
Develop Draft Recommendations Report	09/15/2025	10/10/2025
Present Recommendations to IJIS team and other stakeholder	10/09/2025	10/09/2025
Draft Recommendations Report Review and Feedback	10/13/2025	10/24/2025
Update and Finalize Report	10/27/2025	11/04/2025
End of Engagement	11/07/2025	11/07/2025

END OF DOCUMENT