ADOA-ASET
Arizona Strategic Enterprise Technology

Project Investment Justification

Payroll Calculation Re-Engineering

RT19004

Arizona State Retirement System

Contents

1. GENERAL INFORMATION

PIJ ID: RT19004
PIJ Name: Payroll Calculation Re-Engineering
Account: Arizona State Retirement System
Business Unit Requesting: TSD
Sponsor: Anthony Guarino
Sponsor Title: Deputy Director
Sponsor Email: anthonyg@azasrs.gov
Sponsor Phone: (602) 240-2000

2. MEETING PRE-WORK

2.1 What is the operational issue or business need that the Agency is trying to solve? (i.e....current process is manual, which increases resource time/costs to the State/Agency, and leads to errors...):

The Arizona State Retirement System (ASRS) needs to upgrade one of the oldest sections of code in the in-house custom pension administration system (PAS). This module, called the Pension Calculation Module, has become very slow and requires a great deal of manual oversight to complete each month.

Unfortunately, due to the nature of the service, the Pension Calculation Module cannot be developed as a pure stand-alone Software as a service (SaaS). The code is tightly integrated with the rest of the Pension Administration System (PAS) and must be written and maintained in the same code base, using the same integration and deployment tools as the rest of the (PAS) to support current and future maintenance of the system.

Over the past 10 years, the largest parts of the (PAS) have been completely modernized into a java, imaging, workflow and web browser based application that meets the business needs and makes the (ASRS) one of the most efficient retirement systems in the world. This Pension Calculation Module was not modernized and is now under performing and error-prone.

The existing monthly pension calculation code was first written and deployed over 19 years ago. The system uses a cumbersome and outdated batching concept that was meant to process 50,000 payments per month back in 2000. The process now must handle more than three times that volume each month, creating a serious load on staff and systems for a full week in each month. Our goal is to re-engineer this code so that it uses an (ASRS) -standard, modern technology as a seamless piece in the larger system and to remove the archaic batching concept for our current volume of 155,000 payments per month.

In this upgrade, the pension payroll and new retiree payroll payment calculation processes will be re-engineered to use Java code, like the rest of the (ASRS) (PAS). This way it can be supported by any of our salaried Java developers. Java provides a great amount of flexibility and functionality with the available open source frameworks with no annual cost. We will eliminate the batching concept for calculating payments so we are no longer tied to two very stressful payroll runs that require the business to stop their day to day activities while payroll is running. The current payroll processes are "all or nothing" meaning that we recalculate all of the individual payment amounts regardless of whether or not there was a change to that person's account that necessitated a recalculation. This makes the payroll process very lengthy and fragile because if one payment results in an error the entire batch fails and that step in the payroll calculation process has to be restarted. Our goal is to allow new retiree payments (those receiving their first final-calculated pension payment) to be calculated and sent out on a daily basis versus our current practice of once per month. Subsequent pension payments will be paid on the first of each month.

2.2 How will solving this issue or addressing this need benefit the State or the Agency?

Improves efficiency and reduces risk. Modernizing the pension calculation system into a real-time, on-demand calculator rather than monthly batch process will make ongoing maintenance cheaper and more efficient. It

further mitigates the risks associated with (ASRS) statutory purpose to ensure timely pension benefits to our members. We will also be able to provide real time feedback to staff and members on how changes to their elections and/or deductions will affect their next payment.

2.3 Describe the proposed solution to this business need.

The (ASRS) needs to upgrade the code base in the pension calculation system to use the (ASRS) - standard set of tools and methods employed across the rest of the system. The completed code will reside among the rest of the code base so that (ASRS) can maintain the entire application going forward with salaried staff.

The soon-to-be-complete Oracle Modernization (OM) Project and recently completed Pension Disbursements Project have already modernized the rest of our Pension Administration System (PAS). The OM effort allowed us to retire our legacy "PERIS" Pension Administration System which was written using Oracle Forms and Reports. Our Oracle Forms and Reports servers were decommissioned on schedule and on budget in December of 2019. This project will be on budget while delivering all of the promised functionality due to the modern software development methodologies, architecture and highly proficient staff at the (ASRS). We also just completed a separate Pension Disbursements Project to bring our pension payment distribution process entirely in house which will save the agency $1,000,000 per year in administrative costs. This project was also completed on schedule and on budget.

The purpose of this new effort is to tackle the space in between the pension maintenance system and the pension payment distribution process. This new effort is the smallest of the three, aimed at converting the payment calculation system from a batch to real-time calculation engine using modern and sustainable technology.

In recent years, thanks to the custom PAS we have built, the (ASRS) has achieved and maintained a high rating amongst our state pension peers in terms of breadth of services offered, quality of service and minimal cost to maintain. The (ASRS) sits firmly in the high service / low cost quartile among our peers, according to an international bench marking organization called CEM Bench marking.

Five years ago when we began the Oracle Modernization PIJ we conducted analysis to determine if we should choose a Customized Off the Shelf (COTS) Pension Administration System (PAS). Modernizing our existing system was shown to be much cheaper and better able to meet the unique needs of our agency (less than $15 million for OM + Pension Disbursements together). In 2014, those independent COTS estimates ranged from $20-$35 million for a full delivery of a PAS – much higher than the ASRS has spent in-house. The results of this Oracle Modernization effort ensures our custom PAS will be current for the next 5-7 years.

Although our PAS is current, we still performed a new round of due diligence to determine the cost of fully replacing our freshly modernized PAS with a COTS. Based on current cost estimates, a COTS implementation for a pension system like ours is now estimated to cost in excess of $50 million to implement and take 6-7 years to complete.

CONTINUED BUT BEYOND 5000 CHARACTER MAXIMUM. See attached word doc.

2.4 Has the existing technology environment, into which the proposed solution will be implemented, been documented?

Yes

2.4a Please describe the existing technology environment into which the proposed solution will be implemented.

2.5 Have the business requirements been gathered, along with any technology requirements that have been identified?

Yes

2.5a Please explain below why the requirements are not available.

We have only gathered high level requirements at this time. The detailed stories will be captured when the project begins as part of our Agile-SCRUM process.

3. PRE-PIJ/ASSESSMENT

3.1 Are you submitting this as a Pre-PIJ in order to issue a Request for Proposal (RFP) to evaluate options and select a solution that meets the project requirements?

No

3.1a Is the final Statement of Work (SOW) for the RFP available for review?

3.2 Will you be completing an assessment/Pilot/RFP phase, i.e. an evaluation by a vendor, 3rd party or your agency, of the current state, needs, & desired future state, in order to determine the cost, effort, approach and/or feasibility of a project?

No

3.2a Describe the reason for completing the assessment/pilot/RFP and the expected deliverables.

3.2b Provide the estimated cost, if any, to conduct the assessment phase and/or Pilot and/or RFP/solicitation process.

3.2e Based on research to date, provide a high-level cost estimate to implement the final solution.

4. PROJECT

4.1 Does your agency have a formal project methodology in place?

Yes

4.2 Describe the high level makeup and roles/responsibilities of the Agency, Vendor(s) and other third parties (i.e. agency will do...vendor will do...third party will do).

This project will not require assistance from a vendor. It will be managed and implemented by full time ASRS staff (FTE) with assistance from temporary external Java resources. The project manager, business analyst, architect, scrum master and technical lead roles will be filled by full time employees. The product owners and stakeholders are all FTE's.

4.3 Will a PM be assigned to manage the project, regardless of whether internal or vendor provided?

Yes

4.3a If the PM is credentialed, e.g., PMP, CPM, State certification etc., please provide certification information.

4.4 Is the proposed procurement the result of an RFP solicitation process?

Yes

4.5 Is this project referenced in your agency's Strategic IT Plan?

Yes

5. SCHEDULE

5.1 Is a project plan available that reflects the estimated Start Date and End Date of the project, and the supporting Milestones of the project?

Yes

5.2 Provide an estimated start and finish date for implementing the proposed solution.

Est. Implementation Start Date	Est. Implementation End Date
5/10/2021 12:00:00 AM	5/31/2023 12:00:00 AM

5.3 How were the start and end dates determined?

Based on project plan

5.3a List the expected high level project tasks/milestones of the project, e.g., acquire new web server, develop software interfaces, deploy new application, production go live, and estimate start/finish dates for each, if known.

Milestone / Task	Estimated Start Date	Estimated Finish Date
Project Kickoff Meeting	05/10/21	05/10/21
Architecture Approval	05/11/21	07/31/21
New Retiree Payroll Calculation Conversion	05/17/21	01/31/22
Payroll Calculation Conversion	11/17/21	09/30/22
Payment Creation Module	04/17/22	08/31/22
13th Check Calculation Conversion	06/17/22	11/30/22
Month End Processes, Drop legacy objects, FDS tasks, Module lock replacement	09/17/22	04/01/23
Production Release and prep	03/05/23	05/31/23
Final Payment	08/01/23	08/31/23

5.4 Have steps needed to roll-out to all impacted parties been incorporated, e.g. communications, planned outages, deployment plan?

Yes

5.5 Will any physical infrastructure improvements be required prior to the implementation of the proposed solution. e.g., building reconstruction, cabling, etc.?

No

5.5a Does the PIJ include the facilities costs associated with construction?

5.5b Does the project plan reflect the timeline associated with completing the construction?

6. IMPACT

6.1 Are there any known resource availability conflicts that could impact the project?

Yes

6.1a Have the identified conflicts been taken into account in the project plan?

Yes

6.2 Does your schedule have dependencies on any other projects or procurements?

Yes

6.2a Please identify the projects or procurements.

There are no procurement dependencies. There are project dependencies because our FTE scrum teams are currently working full time on existing ASRS projects. The start date of this project is dependent on the current projects finishing. This has been taken into account in the schedule.

6.3 Will the implementation involve major end user view or functionality changes?

Yes

6.4 Will the proposed solution result in a change to a public-facing application or system?

No

7. BUDGET

7.1 Is a detailed project budget reflecting all of the up-front/startup costs to implement the project available, e.g, hardware, initial software licenses, training, taxes, P&OS, etc.?

Yes

7.2 Have the ongoing support costs for sustaining the proposed solution over a 5-year lifecycle, once the project is complete, been determined, e.g., ongoing vendor hosting costs, annual maintenance and support not acquired upfront, etc.?

Yes

7.3 Have all required funding sources for the project and ongoing support costs been identified?

Yes

7.4 Will the funding for this project expire on a specific date, regardless of project timelines?

No

7.5 Will the funding allocated for this project include any contingency, in the event of cost over-runs or potential changes in scope?

Yes

8. TECHNOLOGY

8.1 Please indicate whether a statewide enterprise solution will be used or select the primary reason for not choosing an enterprise solution.

There is not a statewide enterprise solution available

8.2 Will the technology and all required services be acquired off existing State contract(s)?

Yes

8.3 Will any software be acquired through the current State value-added reseller contract?

No

8.3a Describe how the software was selected below:

8.4 Does the project involve technology that is new and/or unfamiliar to your agency, e.g., software tool never used before, virtualized server environment?

No

8.5 Does your agency have experience with the vendor (if known)?

Yes

8.6 Does the vendor (if known) have professional experience with similar projects?

Yes

8.7 Does the project involve any coordination across multiple vendors?

No

8.8 Does this project require multiple system interfaces, e.g., APIs, data exchange with other external application systems/agencies or other internal systems/divisions?

No

8.9 Have any compatibility issues been identified between the proposed solution and the existing environment, e.g., upgrade to server needed before new COTS solution can be installed?

No

8.9a Describe below the issues that were identified and how they have been/will be resolved, or whether an ADOA-ASET representative should contact you.

8.10 Will a migration/conversion step be required, i.e., data extract, transformation and load?

No

8.11 Is this replacing an existing solution?

Yes

8.11a Indicate below when the solution being replaced was originally acquired.

Our current Oracle PLSQL code including procedures, packages, functions, triggers and tables will be replaced by Java code and microservices.

8.11b Describe the planned disposition of the existing technology below, e.g., surplused, retired, used as backup, used for another purpose:

Existing PLSQL code will be eliminated.

8.12 Describe how the agency determined the quantities reflected in the PIJ, e.g., number of hours of P&OS, disk capacity required, number of licenses, etc. for the proposed solution?

The estimated hours required to complete this project analysis was done by the technical team based on previous experience and similar efforts. The estimate includes contingencies for unknowns that will inevitably come up and be handled within the requested budget.

8.13 Does the proposed solution and associated costs reflect any assumptions regarding projected growth, e.g., more users over time, increases in the amount of data to be stored over 5 years?

Yes

8.14 Does the proposed solution and associated costs include failover and disaster recovery contingencies?

Yes

8.14a Please select why failover and disaster recovery is not included in the proposed solution.

8.15 Will the vendor need to configure the proposed solution for use by your agency?

No

8.15a Are the costs associated with that configuration included in the PIJ financials?

8.16 Will any app dev or customization of the proposed solution be required for the agency to use the project in the current/planned tech environment, e.g. a COTS app that will req custom programming, an agency app that will be entirely custom developed?

Yes

8.16a Will the customizations inhibit the ability to implement regular product updates, or to move to future versions?

No

8.16b Describe who will be customizing the solution below:

Professional outside services contractors and FTE's.

8.16c Do the resources that will be customizing the application have experience with the technology platform being used, e.g., .NET, Java, Drupal?

Yes

8.16d Please select the application development methodology that will be used:

Agile/Scrum

8.16e Provide an estimate of the amount of customized development required, e.g., 25% for a COTS application, 100% for pure custom development, and describe how that estimate was determined below:

$998,000.00

8.16f Are any/all Professional & Outside Services costs associated with the customized development included in the PIJ financials?

Yes

8.17 Have you determined that this project is in compliance with all applicable statutes, regulations, policies, standards & procedures, incl. those for network, security, platform, software/application &/or data/info found at aset.az.gov/resources/psp?

Yes

8.17a Describe below the compliance issues that were identified and how they have been/will be resolved, or whether an ADOA-ASET representative should contact you:

8.18 Are there other high risk project issues that have not been identified as part of this PIJ?

Yes

8.18a Please explain all unidentified high risk project issues below:

1. Configuring the system to support multiple payroll runs per month presents issues related to health insurance billing and calculation. These issues will need to be solved during the project if we end up implementing multiple payroll runs.

2. The current PLSQL packages were written nearly 20 years ago by resources who are no longer here. The team that re-engineers them will need to dig into these complex packages and fully understand them.

9. SECURITY

9.1 Will the proposed solution be vendor-hosted?

No

9.1a Please select from the following vendor-hosted options:

9.1b Describe the rationale for selecting the vendor-hosted option below:

9.1c Has the agency been able to confirm the long-term viability of the vendor hosted environment?

9.1d Has the agency addressed contract termination contingencies, e.g., solution ownership, data ownership, application portability, migration plans upon contract/support termination?

9.1e Has a Conceptual Design/Network Diagram been provided and reviewed by ASET-SPR?

9.1f Has the spreadsheet located at https://aset.az.gov/arizona-baseline-security-controls-excel already been completed by the vendor and approved by ASET-SPR?

9.2 Will the proposed solution be hosted on-premise in a state agency?

Yes

9.2a Where will the on-premise solution be located:

Agency's data center

9.2b Were vendor-hosted options available and reviewed?

Yes

9.2c Describe the rationale for selecting an on-premise option below:

These application changes will be hosted wherever our existing applications are hosted at the time we are ready to deploy to production. As of today that is within our on site data center. It is estimated all of our applications will be in the cloud when this project ends. If that is the case then the results of this project will be in the cloud.

9.2d Will any data be transmitted into or out of the agency's on-premise environment or the State Data Center?

No

9.3 Will any PII, PHI, CGIS, or other Protected Information as defined in the 8110 Statewide Data Classification Policy be transmitted, stored, or processed with this project?

Yes

9.3a Describe below what security infrastructure/controls are/will be put in place to safeguard this data:

All changes will follow our agency's Information Security Plan with oversight by our Information Security staff.

10. AREAS OF IMPACT

Application Systems

Application Enhancements;Internal Use Web Application

Database Systems

Oracle;Other

Software

Other

Custom Java Application

Hardware

Hosted Solution (Cloud Implementation)

Amazon (AWS) GovCloud

Security

Telecommunications

Enterprise Solutions

Contract Services/Procurements

11. FINANCIALS

Description	PIJ Category	Cost Type	Fiscal Year Spend	Quantity	Unit Cost	Extended Cost	Tax Rate	Tax	Total Cost
Professional & Outside Services Fiscal Year 2021	Professional & Outside Services	Development	1	1	$83,170	$83,170	0.00 %	$0	$83,170
Professional & Outside Services Fiscal Year 2022	Professional & Outside Services	Development	2	1	$499,000	$499,000	0.00 %	$0	$499,000
Professional & Outside Services Fiscal Year 2023	Professional & Outside Services	Development	3	1	$415,830	$415,830	0.00 %	$0	$415,830

Base Budget (Available)	Base Budget (To Be Req)	Base Budget % of Project
$0	$0	0%
APF (Available)	**APF (To Be Req)**	**APF % of Project**
$0	$0	0%
Other Appropriated (Available)	**Other Appropriated (To Be Req)**	**Other Appropriated % of Project**
$0	$0	0%
Federal (Available)	**Federal (To Be Req)**	**Federal % of Project**
$0	$0	0%
Other Non-Appropriated (Available)	**Other Non-Appropriated (To Be Req)**	**Other Non-Appropriated % of Project**
$998,000	$0	100%

Total Budget Available	Total Development Cost
$998,000	$998,000
Total Budget To Be Req	**Total Operational Cost**
$0	$0
Total Budget	**Total Cost**
$998,000	$998,000

12. PROJECT SUCCESS

Please specify what performance indicator(s) will be referenced in determining the success of the proposed project (e.g. increased productivity, improved customer service, etc.)? (A minimum of one performance indicator must be specified)

Please provide the performance objective as a quantifiable metric for each performance indicator specified.
Note: The performance objective should provide the current performance level, the performance goal, and the time period within which that performance goal is intended to be achieved. You should have an auditable means to measure and take corrective action to address any deviations.
Example: Within 6 months of project completion, the agency would hope to increase "Neighborhood Beautification" program registration by 20% (3,986 registrants) from the current registration count of 19,930 active participants.

Performance Indicators

All payroll PL\SQL code for batch processing is eliminated

Payment amounts are calculated and problems presented to the user in nearly real time.

Ability to send New Retiree payments on a daily basis

Payments and any bulk changes need to be accurate and efficient

The new payroll system should be able to run without affecting the business's ability to perform their day to day operation and without negatively impacting other applications

All previous Fraud Detection System rules work as they do currently if have they been altered to accommodate any changes during project implementation

Development teams all agree that testing payroll is easier and more effecient.

13. CONDITIONS

Conditions for Approval

Should development costs exceed the approved estimates by 10% or more, or should there be significant changes to the proposed technology scope of work or implementation schedule, the Agency must amend the PIJ to reflect the changes and submit it to ADOA-ASET, and ITAC if required, for review and approval prior to further expenditure of funds.

Monthly reporting on the project status is due to ADOA-ASET no later than the 15th of the month following the start of the project. Failure to comply with timely project status reporting will affect the overall project health. The first status report for this project is due on June 15, 2021.

14. OVERSIGHT SUMMARY

Project Background

The Arizona State Retirement System (ASRS) is a state agency that administers pension plans, long term disability plans, retiree health insurance plans and other benefits to qualified government workers. ASRS needs to upgrade one of the oldest sections of code in the in-house custom pension administration system (PAS). This module, called the Pension Calculation Module, has become very slow and requires a great deal of manual oversight to complete each month.

Business Justification

Improves efficiency and reduces risk. Modernizing the pension calculation system into a real-time, on-demand calculator rather than monthly batch process will make ongoing maintenance cheaper and more efficient. It further mitigates the risks associated with ASRS statutory purpose to ensure timely pension benefits to members. The agency will also be able to provide real time feedback to staff and members on how changes to their elections and/or deductions will affect their next payment.

Implementation Plan

The solution will be hosted on-premises in the agency's data center. In the Amazon (AWS) GovCloud. The Arizona State Retirement System plan for implementation is below at a high level:

Inception & Elaboration - 5 weeks
Construction - 15 months
Transition - 4 months
Support - 5 months

It will be done by Professional & Outside Service Contractors and FTE's.

ASET believes that the business unit is competent to carry out the project successfully; and supported by sponsorship and budget unit leadership exists.

Vendor Selection
Professional & Outside Service Contractors.

Budget or Funding Considerations
The project development and implementation are accounted
for in the following manner:
Base budget 100% = $998,000.00
Total Project: $998,000.00
ASET has confirmed the cost estimates provided are accurate.

15. PIJ REVIEW CHECKLIST

Agency Project Sponsor
Anthony Guarino

Agency CIO (or Designee)
Dave King

Agency ISO (or designee)
Jeff Hickman

OSPB Representative

ASET Engagement Manager

ASET SPR Representative
Thomas Considine

Agency SPO Representative

Agency CFO
Erin Higbe