PIJ Submission
RT19004

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Details   Related   PIJ Form

⌄ Submission Info

PIJ ID
RT19004

PIJ Name
Payroll Calculation Re-Engineering

IT Goal
Maintenance of ASRS hardware and software will be timely and frequent (/lightning/r/a0st0000003vMkNAAU/view)

Sponsor
Anthony Guarino

Sponsor Title
Deputy Director

Sponsor Phone
(602) 240-2000 (tel:(602) 240-2000)

Sponsor Email
anthonyg@azasrs.gov (mailto:anthonyg@azasrs.gov)

ITAC Review Required ℹ
☐

ITAC Date
6/16/2021

3rd Party Review Required ℹ
☐

Date Submitted
5/5/2021

PIJ Submitter
Trent Kendall (/lightning/r/005t00000013hSoAAI/view)

Brief Description
Upgrade code in the in-house custom Pension Administration System.

Account
Arizona State Retirement System (/lightning/r/001t0000005ted4AAA/view)

BA Assigned
Leslie Carey (/lightning/r/005t0000003pHL4AAM/view)

Status
Approved With Conditions

Status Report Frequency
Monthly

Engagement Manager
Jacob Crimmins

Business Unit Requesting Project
TSD

Requested Development Amount ℹ
$998,000.00

Record Type
PIJ Full

Evergreen ISA Status
🚩

⌄ Conditional Approval

Conditions ℹ

Date Approved
6/28/2021

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.

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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.

Security Review
5/7/2021

ASET Review
5/10/2021

Security Review Total No Days
4

ASET Review Total No Days
10

Security Review - Hold

Hold - Agency
5/17/2021

Security Review - Hold Total No Days

Hold - Agency Total No Days
34

ITAC Recommendation
6/3/2021

Days to Approve
54

ITAC Recommendation Total No Days
42

Days in Status

Draft Period
688

∨ Meeting Pre-Work

Operational issue/business need solving? ⓘ

Proposed solution documented? ⓘ
Yes

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.

How will solution benefit State/Agency? ℹ️

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.

Describe existing environment ℹ️

Describe proposed solution ℹ️

Documentation location ℹ️

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.

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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.

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Business/tech requirements gathered? ⓘ
Yes

Explain req 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.

∨ Project

Formal Project Methodology? ⓘ	PM Assigned? ⓘ
Yes	Yes
Agency/Vendor responsibilities ⓘ	Referenced in Strategic IT Plan? ⓘ
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.	Yes

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Cost $1M+? ⓘ	
RFP Solicitation Process? ⓘ	
Yes	

⌄ Schedule

Start Date, End Date & Milestones ⓘ	Impacted parties steps? ⓘ
Yes	Yes
Est. Implementation Start Date ⓘ	Physical Infrastructure Improvements? ⓘ
5/10/2021	No
Est. Implementation End Date ⓘ	Construction cost? ⓘ
5/31/2023	
How were dates determined? ⓘ	Construction timeline? ⓘ
Based on project plan	
Dates Determined Other	

⌄ Impact

Known resource conflicts? ⓘ	Schedule dependencies? ⓘ
Yes	Yes
Conflicts in project plan? ⓘ	Please identify projects/procurements ⓘ
Yes	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.
End user functionality changes? ⓘ	Change to public-facing system? ⓘ
Yes	No

⌄ Budget

Detailed project budget? ⓘ	Funding expiration? ⓘ
Yes	No
Ongoing budget support? ⓘ	Funding Availability Est Start Date
Yes	5/3/2021
Required funding sources identified? ⓘ	Funding Availability Est Finish Date
Yes	8/31/2023
	Funding contingency? ⓘ
	Yes

⌄ Technology

Statewide enterprise solution? ⓘ	Disaster recovery contingencies? ⓘ
There is not a statewide enterprise solution available	Yes
Enterprise Solution Other	Why disaster recovery not incl ⓘ

Acquired off state contracts? 🛈	DR Other
Yes	
Value-added reseller? 🛈	Vendor configuration? 🛈
No	No
Describe software selection 🛈	Configuration Costs 🛈

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Unfamiliar software? 🛈	Custom programming? 🛈
No	Yes
Experience with vendor? 🛈	Will customizations inhibit? 🛈
Yes	No
Vendor professional experience? 🛈	Describe who will customize 🛈
Yes	Professional outside services contractors and FTE's.
Multiple vendors? 🛈	Resource's experience? 🛈
No	Yes
Multiple system interfaces? 🛈	Select dev methodology 🛈
No	Agile/Scrum
Compatibility issues? 🛈	Dev Method Other
No	
Describe compatibility issues 🛈	Amount of customized dev 🛈
	$998,000.00
Migration step required? 🛈	Customized dev cost included? 🛈
No	Yes
Is this replacing an existing solution? 🛈	Project compliance? 🛈
Yes	Yes
When original solution acquired? 🛈	Describe compliance issues 🛈
Our current Oracle PLSQL code including procedures, packages, functions, triggers and tables will be replaced by Java code and microservices.	
Planned disposition 🛈	High risk project issues? 🛈
Existing PLSQL code will be eliminated.	Yes
Determination of quantities 🛈	Explain high risk issues 🛈
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.	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.
Projected growth assumption? 🛈	
Yes	

⌄ Security

Vendor-hosted? 🛈	Hosted on-premise? 🛈
No	Yes
Vendor-hosted options 🛈	On-premise location 🛈
	Agency's data center
Vendor-hosted Other	On-Premise Other
Vendor-hosted rationale 🛈	Vendor-hosted options reviewed? 🛈
	Yes
Vendor-hosted viability 🛈	Rationale for on-premise 🛈

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.

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Contract contingencies ⓘ

Data transmitted? ⓘ
No

Network Diagram provided? ⓘ

Protected information stored? ⓘ
Yes

Spreadsheet completed by vendor? ⓘ

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

Vendor Security Contact Name ⓘ

Vendor Security Contact Title

Vendor Security Contact Email

Vendor Security Contact Phone

⌄ Areas of Impact

Application Systems	Application Other
Application Enhancements;Internal Use Web Application	
Database Systems	Database Other
Oracle;Other	
Software	Software Other
Other	Custom Java Application
Hardware	Hardware Other
Hosted Solution (Cloud Implementation)	Hosted Solution Other
Amazon (AWS) GovCloud	
Security	Security Controls Other
	Security Other
	Physical Controls Other
Telecommunications	Telecommunications Other
Enterprise Solutions	Enterprise Other
Contract Services/Procurement	Contract Services Other
Contractor Support Services	

⌄ Financials Summary

Compliance to State CIO requirements
Yes

No Vendor Quote Reason
All attached quotes were the result of an RFP put out via Knowledge Services. We received 5 responses all of which are more expensive than the cost to do it ourselves.

None of the attached quotes include the $136,576 of expenses the ASRS will incur to provide oversight and implementation of the vendor's solutions.

Total Budget Available
$998,000.00

Total Operational Cost ⓘ
$0.00

Total Budget To Be Req
$0.00

Total Development Cost ⓘ
$998,000.00

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Total Budget	Total Cost
$998,000.00	$998,000.00

$ of Project (Available)

Base Budget (Available)	Base Budget % of Project
$0.00	0%

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Base Budget (To Be Req)
$0.00

APF (Available)	APF % of Project
$0.00	0%

APF (To Be Req)
$0.00

Other Appropriated (Available)	Other Appropriated % of Project
$0.00	0%

Other Appropriated (To Be Req)
$0.00

Federal (Available)	Federal % of Project
$0.00	0%

Federal (To Be Req)
$0.00

Other Non-Appropriated (Available)	Other Non-Appropriated % of Project
$998,000.00	100%

Other Non-Appropriated (To Be Req)
$0.00

⌄ Performance Indicators

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.

⌄ PIJ Reviewers/Approvers

Agency Project Sponsor	Agency CIO (or designee)
Anthony Guarino	Dave King
Agency Project Sponsor Email	Agency CIO Approval Date
anthonyg@azasrs.gov (mailto:anthonyg@azasrs.gov)	2/5/2021
Agency Sponsor Approval Date	Agency CIO (or designee) Email
2/5/2021	daveki@azasrs.gov (mailto:daveki@azasrs.gov)
Agency ISO (or designee)	JLBC Representative Approval Date
Jeff Hickman	
Agency ISO Approval Date	OSPB Representative Approval Date
2/5/2021	
Agency ISO (or designee) Email	Engagement Manager Approval Date
jeffh@azasrs.gov (mailto:jeffh@azasrs.gov)	

JLBC Representative	ASET SPR Representative Approval Date
	5/10/2021

OSPB Representative	Agency CFO
	Erin Higbe

ADOA-ASET Engagement Manager	Agency CFO Approval Date

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RT19004

ASET SPR Representative	Agency CFO Email
Thomas Considine	erinh@azasrs.gov (mailto:erinh@azasrs.gov)

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2/5/2021

Agency SPO Representative

Agency SPO Representative Email

Agency SPO Representative Approval Date
2/5/2021

∨ Additional Approvers

Approver Name	Approver Name

Approver Email	Approver Email

Approval Date	Approval Date

Approver Name	Approver Name

Approver Email	Approver Email

Approval Date	Approval Date

Approver Name	Approver Name

Approver Email	Approver Email

Approval Date	Approval Date

Approver Name	Approver Name

Approver Email	Approver Email

Approval Date	Approval Date

Approver Name	Approver Name

Approver Email	Approver Email

Approval Date	Approval Date

∨ 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.

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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.

∨ Attachments Included

Project Plan
☐

Current Environmental Documentation
☐

Additional Agreements
☐

∨ Information

VIP Date/Time Submitted
5/5/2021 9:11 AM

Financials Count
3

VIP Form Template
PIJ Full 2/28/2017 (/lightning/r/a0Wt0000003gSq8EAE/view)

Milestone Count
9

VIP Foreign Language

Created By
Trent Kendall (/lightning/r/005t00000013hSoAAI/view),
6/17/2019 3:48 PM

Last Modified By
Leslie Carey (/lightning/r/005t0000003pHL4AAM/view),
6/28/2021 3:44 PM

PIJ Cost Summary
(/servlet/servlet.Integration?
lid=00bt0000000ggMq&eid=a0ht00000041g
TLAAY&ic=1)

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Activity   Chatter

New Task	New Event	Log a Call

Create a task…   Add

Filters: All time • All activities • All types ▼

Refresh • Expand All • View All(/runtime_sales_activities/activityViewAll.app?parentRecordId=a0ht00000041gTLAAY)

⌄ **Upcoming & Overdue**

No next steps.
To get things moving, add a task or set up a meeting.

⌄ **June • 2021**   **This Month**

› Post ITAC Sync (PIJ Review) (/lightning/r/00U8y000001DB84EAG/view)   1:00 PM | Today ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Trent Kendall (/lightning/r/003t000000BtSUYAA3/view)

› PIJ Review (Pre ITAC Sync) (/lightning/r/00U8y000001DB7zEAG/view)   3:30 PM | Jun 22 ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Trent Kendall (/lightning/r/003t000000BtSUYAA3/view) and 1 other

› Call (/lightning/r/00T8y000001yBNEEA2/view)   Jun 22 ▼
    You logged a call with Jacob Crimmins (/lightning/r/003t000000AhLcuAAF/view) and 1 other

⌄ **May • 2021**   **Last Month**

› Quick ASRS PIJ Sync (/lightning/r/00U8y0000015HpMEAU/view)   12:30 PM | May 17 ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Douglas Lange (/lightning/r/003t0000008qP71AAE/view) and 2 others

› Draft PIJ - RT19004 - Payroll Calculation Re-Engineering (/lightning/r/00U8y0000015HeIEAU/view)   11:30 AM | May 17 ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Dave King (/lightning/r/003t000000GZzwKAAT/view) and 3 others

› Call (/lightning/r/00T8y000001swuDEAQ/view)   May 17 ▼
    You logged a call with Charles Brown (/lightning/r/003t0000008OG1BAAW/view) and 1 other

› Call (/lightning/r/00T8y000001sv4vEAA/view)   May 17 ▼
    You logged a call with Trent Kendall (/lightning/r/003t000000BtSUYAA3/view) and 2 others

› PIJ Review - With Chuck (/lightning/r/00U8y0000014UQ5EAM/view)   1:00 PM | May 14 ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Charles Brown (/lightning/r/003t0000008OG1BAAW/view) and 1 other

› AZRamp (/lightning/r/00T8y000001jNgUEAU/view)   May 10 ▼
    Thomas Considine (/lightning/r/005t0000001bJDSAA2/view) logged a call

› Draft PIJ - Sync (/lightning/r/00U8y0000013u4KEAQ/view)   4:30 PM | May 5 ▼
    Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Leslie Carey (/lightning/r/003t000000S5kF0AAJ/view)

⌄ **December • 2020**   **Last Year**

› ASRS Draft PIJ Discussion (/lightning/r/00Ut000000F12SoEAJ/view)   1:00 PM | Dec 7, 2020 ▼
    Yan Gao (/lightning/r/005t00000004RkzrAAC/view) had an event with Charles Brown (/lightning/r/003t0000008OG1BAAW/view) and 1 other

November • 2020   **Last Year**

> ASRS PIJ Progress Update (/lightning/r/00Ut000000DuGUaEAN/view)   1:00 PM | Nov 23, 2020 ▼

Jacob Crimmins (/lightning/r/005t0000000kmsVAAQ/view) had an event with Dave King (/lightning/r/003t000000GZzwKAAT/view) and 2 others

PIJ Submission
October • 2020
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> Discuss Payroll Draft PIJ (/lightning/r/00Ut000000FDHFYEA5/view)   11:00 AM | Oct 27, 2020 ▼

Yan Gao (/lightning/r/005t0000004RkzrAAC/view) had an event with Dave King (/lightning/r/003t000000GZzwKAAT/view) and 2 others

> ASRS prep meeting (/lightning/r/00Tt000000tYCAFEA4/view)   Oct 26, 2020 ▼

Yan Gao (/lightning/r/005t0000004RkzrAAC/view) logged a call with Charles Brown (/lightning/r/003t0000008OG1BAAW/view) and 1 other

> ASRS Discussion (/lightning/r/00Tt000000s4oltEAA/view)   Oct 9, 2020 ▼

Yan Gao (/lightning/r/005t0000004RkzrAAC/view) logged a call with Charles Brown (/lightning/r/003t0000008OG1BAAW/view)

July • 2020   **Last Year**

> Draft PIJ - Review ASRS PIJ draft materials (/lightning/r/00Ut000000Dp4ABEAZ/view)   2:30 PM | Jul 27, 2020 ▼

Yan Gao (/lightning/r/005t0000004RkzrAAC/view) had an event with Dave King (/lightning/r/003t000000GZzwKAAT/view) and 3 others