

Attachment 1 – Statement of Objectives (SOO) OPS Software Development Services for OPRE

1.0 Background Overview

1.1 Agency Background

Mission

A key mission of the Office of Planning, Research, and Evaluation (OPRE) within the Administration for Children and Families (ACF) is to build and disseminate evidence for increasing the effectiveness and efficiency of ACF programs to improve the economic and social well-being of children and families. A major aspect of OPRE work includes planning, developing and monitoring research and evaluation studies related to ACF programs and the populations they serve. The studies are conducted primarily through competitive contracts and, to a lesser extent, through grants. OPRE works closely with program and staff offices within ACF, other components within the Department of Health and Human Services, and other federal agencies in developing its research agenda and in disseminating research findings.

Office Structure

OPRE has four Divisions staffed with employees responsible for performance of the office's basic mission – the Division of Economic Independence (DEI), the Division of Child and Family Development (DCFD), the Division of Family Strengthening (DFS), and the Division of Data and Improvement (DDI). A major responsibility for this staff is the development and management of OPRE's large portfolio of research and evaluation contracts and grants, including effective project and budget management and dissemination of findings. Staff also participate in collaborative work with ACF program offices, other federal agencies, and external partners. OPRE currently employs over 70 federal staff across the four Divisions and the Office of the Director. OPRE's staff is currently responsible for the management of up to \$200M in obligations annually. OPRE was responsible for \$158.16 million in grants and contracts in fiscal year 2021. In addition to managing current awards, OPRE staff members also conduct market and background research and develop statements of work for new research and other studies/services to be awarded.

Ongoing activities

OPRE's contract/grants management operations involve all necessary and programmatic aspects of the acquisition and grant making processes as well as the oversight of the awarded and active grants and contracts. This includes (but is not limited to):

- developing research and evaluation priorities;
- market research and analysis;
- drafting statements of work and funding opportunity announcements (FOAs);
- working with partners at multiple contracting offices and at ACF's Office of Grants Management (OGM) to issue solicitations and FOAs;
- reviewing and assessing strengths and weaknesses of proposals;
- providing appropriate programmatic technical oversight and direction to awarded contracts and grants throughout the period of award;
- interacting with others to support the completion of ongoing contracts/grants activities (e.g. Office of Management and Budget (OMB), ACF program offices, other federal agencies, etc.);
- reviewing and processing of invoices;
- tracking of expenditures across all accounts and management of OPRE's budget;
- dissemination of final products and information through multiple platforms; and
- carrying out other activities as required to accomplish successful contract and grant management.

In addition, OPRE is focused on the execution of strategic communications and digital engagement for research and evaluation products. The OPRE website (<https://www.acf.hhs.gov/opre>) is a central part of OPRE's research dissemination strategy and a critical tool in support of the office mission. OPRE also uses multiple other digital channels such as newsletters and social media accounts to broadcast the posting of new reports to the website and key findings to share other information. OPRE maintains Twitter, Facebook, Instagram, and LinkedIn social media accounts to support its research dissemination efforts. OPRE aims to reach a broad audience, create a community of interest connected to OPRE work, distill insights and key research conclusions in an accessible digital format, and link users to the full breadth of information on the OPRE website.

1.2 Problem This Requirement is Addressing

OPRE does not have a centralized system to collect and store information about the projects that staff are working on. Most budget-related information is stored in OPRE's Management & Accounting for Projects System (MAPS), but project-related information (e.g., research topic, method, population, etc), staffing information, and some budget information are stored

in varied, individual spreadsheets. This makes it difficult to develop a complete view of their projects, keep the information up to date, and run analytics.

OPRE handles an increasingly wide variety of contract and agreement types, but MAPS was not designed to accommodate the unique budgeting and invoicing requirements associated with some of these (e.g., assisted acquisitions handled by multiple contracting offices external to ACF). The MAPS application, in use since 2012, is built using Java on the Apache Wicket framework, using an Oracle Database on AWS RDS as well as AWS S3 for document storage. The system is hosted on AWS, as well. The data in the system includes tracking procurement and budget activities, as well as user and permission access.

Attachment 4 is a system diagram of the MAPS architecture. While this may be helpful for understanding the OPRE context and planning a migration, the current MAPS architecture should not be considered the model for OPS development.

Budget planning, procurement, and invoicing activities require a series of approvals, but the current tracking system, MAPS, was not designed to track their proposed activities, route tasks for approval, or track statuses. They currently rely instead on emails.

OPRE needs to be able to allocate shared costs across projects and update these numbers as budgets change, but their current process is time-consuming, confusing, non-transparent, and results in system down-time.

OPRE needs to create regular and ad hoc reports to track and disseminate information about their projects and budgets, but they currently have to stitch data together from multiple sources and it can be confusing to understand how to get the data they want. In some cases, the data model isn't designed to answer the questions to which they need answers. OPRE staff maintain a number of spreadsheets and have developed various workarounds to perform their jobs, but this means that a lot of knowledge lives in individuals' heads and their processes are brittle and non-scalable.

OPRE needs their administrative system to be designed with appropriate permissions that enable staff to perform common tasks while ensuring the Budget Team has oversight of data integrity, but their current system was not designed this way.

OPRE needs their administrative system to be intuitive to use so that staff can complete their work independently and have more time to spend on mission-specific and strategic work, but the current system and processes involve a lot of friction and require a lot of training and support.

OPRE needs their administrative system to be well-documented to facilitate iterative improvements and feature development, but their current system's codebase is not well-documented and has no automated test coverage, making changes to the system risky and effortful.

2.0 Scope

2.1 Product Vision

As OPRE has grown, its procurement and budgeting needs have evolved from the time when MAPS was originally built. In addition, MAPS was not designed to support OPRE's needs around project portfolio management and workforce planning activities. As a result, staff use a number of workarounds to accomplish their goals, with extra spreadsheets, tools, and communications. Because of these needs, OPRE has determined that its needs will best be served through a migration to a new system.

The new system—provisionally titled OPS (OPRE's Portfolio management System)—will empower managers and staff with the visibility they need into OPRE's research, evaluation, and data activities, as well as streamline budget and administrative tasks. With this system, it will be easy for OPRE to plan and manage projects so they can spend less time managing the work and more time building evidence to improve the lives of children and families.

As OPS is designed and built, it should have the following impact:

- OPRE has a single source of truth about projects that has relevant, accurate data that any staff can easily access
- Budget and administrative tasks can be completed quickly, easily, and independently
- The system can be updated and modified more efficiently and with less risk.

System flexibility is key, as OPRE works within regulations and policies that are subject to change. For instance, OPRE is currently transitioning into the Department of the Treasury's [G-Invoicing program](#) and increasing its use of [E-Invoicing](#).

OPRE prefers to deploy OPS as soon as the software has been sufficiently developed to provide the minimal viable functionality. OPRE expects that further releases will follow the MVP as additional functionality is completed.

2.2 Description of work to be performed

2.2.1 Agile software development services

To accomplish this goal, OPRE seeks agile software development services. The services to be provided will include all aspects of the software development process, including initial planning, design, software development and coding, prototyping, documentation, testing, and configuration, as well as ongoing refinement and maintenance.

This software development project will use agile development principles, with robust documentation, human-centered design, and an extensible infrastructure. OPRE expects that the development process will be collaborative and iterative, with open, regular, and frequent communication between OPRE and the Contractor. To do so, the Contractor will work with the OPS product owner as well as a to-be-hired technical lead. The OPS product owner and technical lead will be primarily focused on this project, but also have other OPRE responsibilities. The OPS product owner works within OPRE and holds deep expertise in existing MAPS functionality and expects to partner closely with the Contractor throughout the development process.

OPRE has performed some initial research, along with product and technical strategizing, in order to validate this concept. However, it is expected that the team will continue to iterate on that work as the project moves forward.

2.2.2 Objective 1: OPS development

The team will be incrementally building a custom tool to enable OPRE staff to effectively and efficiently administer their projects. This development will occur in parallel with MAPS deprecation, as described in the “MAPS to OPS migration” section below. OPRE anticipates development of the replacement system will occur in stages, beginning with an end-to-end workflow for a single project type. However, OPRE is open to alternative strategies and will collaborate with the Contractor to create and revise that plan. OPRE expects the Contractor team to work with OPRE to prioritize functionality based on user research and to develop an incremental roadmap that ensures continued MAPS performance during system transition.

Potential functionality

In particular, OPRE hopes to build a system that provides functionality such as:

- **Budget planning and management**
 - Creating and entering funding information so OPRE knows how much money it is responsible for

- Entering budgets for contracts, grants, agreements, etc, so OPRE knows how much money has been planned or obligated, and for which activities
 - Storing files associated with contracts, grants, agreements
 - Allocating fees and shared costs that also draw down from the budget
 - Viewing total amount spent (e.g., amount obligated plus fees and shared costs) compared to amount budgeted for CANs, contracts, grants, agreements, etc, so OPRE can manage budgets
 - Automating approval workflows, including automated emails
 - Supporting the above for multiple contract and agreement types, including direct contracts, assisted acquisitions, incoming and outgoing Inter-agency Agreements, Grants, Direct Obligations, IDDA's, etc.
- **Procurement management**
 - Entering planned procurement actions
 - Requesting initiation of requisitions and modifications
 - Tracking procurement milestones
 - Supporting procurements through different procurement offices with different processes and fees, configuring workflows customized to the procurement office being used
 - Supporting direct contracts and assisted acquisitions
- **Invoice management**
 - Entering invoice information
 - Viewing invoiced spend against budgets
 - Storing invoice-related files
 - Possibly automating approval workflows, including automated emails
- **Project catalog**
 - Creating and entering project information, including description, research area, study type, population, project lead, project team, etc.
 - Associating contracts, grants, and other agreements to projects
 - Associating projects to related projects, possibly creating portfolios of related projects
- **Staffing management**
 - Viewing and managing staff assignments
- **Reporting & data exports**
 - Downloading or exporting data optimized for common workflows, such as syncing data or matching records with external systems, responding

to data calls, providing data to Congress, or compiling other regular reports.

- **Data importing / uploading**
 - Importing or uploading data in bulk, e.g., from spreadsheets or CSVs.
- **User and permissions management**
 - Authentication service(s) to control access to the new system, including support for remote access
 - New or improved authorization model to control access to data based on project assignments
 - Intrusion detection

Architectural and technical decisions

OPRE has made some initial architectural and technical decisions¹ for the new tool:

- The new tool will be hosted in an OPRE-owned cloud.gov organization
- The new tool will use a repository inside [the HHS-owned GitHub organization](#) for version control
- The new tool will use an OPRE-owned S3 bucket for file storage
- The new tool will use the HHS-owned CircleCI organization for continuous integration and continuous deployment
- The new tool will use a modern, open-source database for all application data storage. Examples include, but are not limited to, PostgreSQL and MySQL, and a final choice will be made by OPRE and the Contractor
- The new tool will be built using a modern, open-source web framework. Examples include, but are not limited to, Django or Ruby on Rails, and a final choice will be made by OPRE and the Contractor

Support for Authority to Operate

OPS will require an Authority to Operate (ATO) from the ACF OCIO for use in production. While OPRE will be responsible for obtaining that ATO, the team is expected to support that process as part of the development. This may include producing system documentation or participating in security testing. The MAPS system is classified as FISMA moderate, and it is expected that OPS will have the

¹ For more information and background on existing technical decisions, see [the Architecture Decision Records for this project](#). ADRs are records that are meant to communicate technical and architectural decisions made by the team in a highly visible and consolidated place. Some of these decisions have already been implemented and some would potentially be implemented and/or extended by the Contractor.

same classification. The ACF OCIO has provided required standards for software projects, which is attached as Attachment 5.

2.2.3 Objective 2: MAPS to OPS migration

Along with product development, the team will also preserve and migrate legacy data from MAPS to OPS. Database migration will need to happen using a secure environment, such as AWS VPC Peering, AWS Database Migration Service (DMS). Document files will have to be securely copied from an AWS S3 bucket. As a migration plan has not yet been developed, OPRE and the Contractor will be responsible for developing the plan in collaboration with the ACF OCIO and OPRE's Data & Privacy staff and obtaining approval to proceed.

As an initial hypothesis, OPRE is considering a migration that includes replicating existing data in the MAPS Contractor's Oracle database to an OPRE-owned Oracle database for ongoing backup before migrating to an open-source database. Since the transitional database will reside on the OPRE-owned AWS, a license-included service option can be used to avoid additional licensing costs. OPRE's newly replicated data could then be translated to an open-source SQL database, where the data will remain and new data for the new tool will be populated. OPRE has not yet validated this hypothesis, and is open to alternate approaches that accomplish the goal of preserving legacy data in an OPRE-owned environment.

Additionally, a migration plan will need to address several challenges facing MAPS, including:

- A lack of documentation within the MAPS codebase, such as code comments or architecture decision records, which increases the time required to make any changes within MAPS
- A lack of automated test coverage for MAPS, which increases the chance of breaking changes
- Database opacity, which increases the amount of maintenance needed and the operational costs

Since it is likely that MAPS will continue to be actively used by OPRE staff while the new OPS tool is being developed and tested, the migration plan should accord with the incremental roadmap discussed in the "OPS development" section above. This is likely to include ongoing data replication and translation from the current Contractor's Oracle database to the new database.

The migration plan should define an order in which modules of functionality of the new system will be brought into use, starting with a minimum viable module that OPRE can transition an initial group of users to. Modules should be defined by identifying bounded contexts of data supporting the modules, and prioritized based on user feedback. Modular

migration is preferred to a hard cut-over of the entire system. The list of *Potential Functionality* areas in section 2.2.2 suggests some modules of functionality.

2.2.4 Rights in data

OPRE has unlimited rights to all documents/material produced under this requirement. All documents and materials, to include the source codes of any software, produced under this contract shall be owned by OPRE and are the property of OPRE with all rights and privileges of the ownership/copyright belonging exclusively to OPRE. These documents and materials may not be used or sold by the Contractor without written permission from the Contracting Officer. All materials supplied to OPRE shall be the sole property of OPRE and may not be used for any other purpose. The right does not abrogate any other Government rights under the applicable Data Rights clause(s).

All data collected by the Contractor or provided to the Contractor in the performance of this contract are the property of OPRE. OPRE retains all rights to the data used and all derivative works developed by the Contractor. The Contractor agrees that during performance of the contract and for a period of six (6) years after the completion of performance of this contract, the Contractor, including all divisions thereof, and any affiliate of the Contractor, any joint venture involving the Contractor, any entity into or with which it may subsequently merge or affiliate, or any other successor or assign of the Contractor, shall not supply information or material received from this contract, to the public or to any firm participating in or having a known prospective interest in the subject matter areas for which the sensitive information such as the name or mission of the government agency/department that provided the data was initially submitted.

3.0 Operating Constraints (Non-functional Requirements)

3.1 System Access

All Contractor personnel working under the resulting task order will need to obtain a Homeland Security Presidential Directive 12 ([HSPD-12](#)) low risk security clearance (or moderate risk security clearance if handling PII).

In addition, the Contractor's key personnel will need to obtain a personal identity verification (PIV) card in order to perform system integration work.

Personnel that are required to obtain a PIV card will be issued a government-furnished laptop from HHS/OPRE. Work requiring a government-furnished laptop includes:

- Accessing deployment environments
- Accessing or handling PII

Personnel that are not required to obtain a PIV card can use Contractor-furnished equipment to perform work. The government does not anticipate that Contractor personnel will need to access PII data initially.

The Contractor may have to establish multi-factor authentication (MFA) to access systems that require government laptops with PIV cards or to access other applications that require MFA.

Additionally, Contractor personnel are required to undertake ACF-specific trainings as described in Attachment 5. The Contractor shall prioritize these trainings in order to avoid any deployment delays.

4.0 Personnel Skills and Knowledge

4.1 Key Personnel

The Contractor must designate who will fill these three roles: Facilitator, Technical Lead, and Design Lead. The roles may be filled by the same or different people, and as a result there should be between one and three key personnel.

The Facilitator will be a direct liaison to the government product team. They will be responsible for ensuring a healthy and effective team. This person will ensure that all Contractor personnel are aligned around a set of shared team goals and have clear, actionable tasks that support those goals. This person should have a background as a scrum master, product manager, agile coach, or a similar role.

The Technical Lead must have a full understanding of the technical approach, including security and compliance, to be used by the Contractor's team and will be responsible for ensuring that the Contractor's team follows that approach. This person will ensure that the technical approach is robust, scalable, and maintainable. They will also manage technical debt and provide strategic input to their government partners. This person should have a background as a software engineer, software architect, or a similar role.

The Design Lead must have a full understanding of the design and research approach to be used by the Contractor's team and will be responsible for ensuring that the Contractor's team follows that approach. This person will ensure that the user research informs product development. This person should have a background as a user researcher, product designer, or a similar role.

4.2 Key Personnel Substitution

Key Personnel substitutions must be submitted to the Contracting Officer (CO) and COR via email, and will only be justified in the event of sudden illness, death, change of employment, or termination of employment for cause. Requests for a substitution of Key Personnel must include a detailed explanation of the justifying circumstances, and a complete résumé for the proposed substitute or addition, including skills, experience, training, and security clearance level (if applicable). The CO's failure to approve a proposed substitution will not constitute grounds for non-performance by the Contractor, or form a valid basis for any claim for money or any equitable adjustment.

4.3 Skills

The relevant skills for this project may include:

- Product management
- Back-end engineering
- Front-end engineering
- Development, security, and operations (DevSecOps) engineering
- Migration of legacy databases
- User research
- Content design
- Visual design
- User support, training, and onboarding

5.0 Administration

5.1 Government Personnel

This task order will be administered by the following individuals, who will also monitor Contractor performance:

- Contracting Officer (CO): Steven Schumacher
- Contract Specialist (CS) Mime Getachew

- OPRE Contracting Officer’s Representative (COR): **To be identified at award**

The government will notify the Contractor if a change occurs to either the CO or COR. Specifically for the COR, the Contractor will receive a copy of the “COR Delegation of Authority” assignment letter when a COR is assigned, and the Contractor will also receive a letter rescinding the COR’s delegation when appropriate.

5.2 Administration

Within five (5) days after award, the Contractor must provide the name of the individual responsible for centralized contract administration in support of all work performed under this order. This individual, at a minimum, will serve as the point of contact for contractual issues, invoicing, and the Contractor representative for annual performance reviews via CPARS.

The information, inclusive of the name of the point of contact, email, and phone number, shall be provided to the CO and COR via email.

The Contractor shall submit to the COR a monthly status report by the 20th calendar day of every month in the designated ACF OCIO template provided by the government which captures the following types of information for each Information Technology task and subtask defined on the Task Order:

- Contract Details- Including, Scope, Invoices, Other Direct Cost (ODCs), Full Time Equivalent (FTEs)
- Financial Overview for Reporting Period and Cumulative
- Activities and Accomplishments for the Reporting
- Contract Deliverable Status
- Monthly Budget
- Base and Modification History
- Issues, Risks, and Mitigation Plan

5.3 Post-award Orientation Conference

The government's team (CO, COR, and System Owner) will hold a kickoff meeting with the awarded Contractor within ten calendar days of task order award. This kickoff meeting shall include the Contractor’s team and other relevant government staff to review and discuss the project’s objectives, expectations from the government, and address any questions the selected Contractor may have.