

*CalSAWS Consortium,
C-IV Project*

**County Purchase SB-05-2020
San Bernardino County – Pilot for IVR Bots
Enhancements**

I. Overview:

Pursuant to Section 6.11 of the Amended and Restated Revised System Agreement between the California SAWS Consortium IV Joint Powers Authority (“Consortium”) and Accenture LLP and Proquire, LLC (“Contractor”), with an effective date of June 29, 2007 (as amended, the “Agreement”), San Bernardino County (“County”) would like to utilize virtual assistance robots (“bots”) to enable additional self-service functionality for the County’s C-IV Interactive Voice Response (“IVR”) solution. The scope of this project consists of one-time Services Charges to implement additional Enhancements to the County’s C-IV IVR for an authentication bot, push notification functionality, and natural language processing to capture caller intent, as further described in this County Purchase order.

The scope of this County Purchase includes one-time Services for the design, development, test, and implementation of the following Enhancements for the County’s IVR solution:

- **Authentication Bot Enhancement:** Configure and implement the Amazon Lex bot to authenticate a customer who calls the County’s IVR. The bot will attempt to collect two (2) data points from a customer for authentication.
 - Of the options provided below, the County will select six (6) options that the bot will utilize for prompting customers. The bot will require the customer to accurately provide two (2) data points within the six (6) County-selected prompts in order to authenticate the customer.
 - Case number
 - PIN
 - Social Security Number
 - Date of birth (“DOB”)
 - Family member’s name and DOB
 - CalHEERS case number
 - Driver’s license number
 - Electronic Benefits Transfer (“EBT”) card number
 - Street address number
 - Five-digit zip code
 - Phone number
- **Push Notification Enhancement:** Following a customer’s authentication in the County’s IVR, up to two (2) of the following notifications may be provided or “pushed” to that customer during the call. This functionality will leverage the C-IV IVR solution’s existing self-service features and existing information within the C-IV System to allow up to two (2) notifications to be pushed to the customer.
 - Notification options based on benefit information within the C-IV System:
 - CalWORKs (“CW”)

- CalFresh (“CF”)
- Medical (“MC”)
- Welfare to Work (“WTW”)
- Notification options based on the status of the customer’s submitted documentation from the C-IV System:
 - CalWORKs status report
 - CalWORKs or CalFresh redetermination packet
 - CalFresh status report
 - CalFresh redetermination packet
 - Transitional Medi-Cal status report
 - Medi-Cal redetermination packet
- Notification options based on the status of the customer’s document request from the C-IV System:
 - Semi-annual report
 - Transitional Medi-Cal Status report
 - Passport to services form
- **Welcome Bot (Natural Language Processing) Enhancement:** Configure and implement the Amazon Lex bot to ask the customer an open-ended question (such as, “What are you calling about today?”), attempt to determine the customer’s purpose or intent of the call, and route the customer to the appropriate location in the County’s IVR flow or program queue based on the customer’s response to the question. The tasks to enable this functionality are listed below:
- **Reporting:** The scope of this project includes the design, development and distribution of Excel reports that contain metrics associated with the above-mentioned Enhancements. The scope of this County Purchase includes the development of up to four (4) reports. Contractor will work with the County to refine the requirements for the reports based on the following available data/metrics:
 1. **Authentication Bot Report:** The Authentication Bot report may include the following metrics:
 - Quantity of customers who successfully authenticate, grouped by the options presented by the IVR
 - Quantity of customers who could not successfully authenticate, grouped by the options presented by the IVR
 - Quantity of customers who required multiple options to successfully authenticate

2. Welcome Bot Report: The Welcome Bot report will include the following data points:
 - Quantity of customers who were placed into the IVR self-service menu based on their determined intent
3. Frequently Used Phrases Report: The Frequently Used Phrases Report will include the top phrases stated by the customer to the Welcome Bot in response to the open-ended question (e.g., "What are you calling about today?"). This would be a manual, ad-hoc report that could be generated when requested by the County.
4. Push Notification Report: The Push Notification report will show the number of customers that ended the call after information from the Push Notification Enhancement is provided to them.

Assumptions

General Assumptions:

- The County must approve this County Purchase and provide the corresponding approved Advance Planning Document ("APD") by October 31, 2020. Otherwise, the estimates provided in this County Purchase will be void and a new County Purchase will be required.
- The Total Charges is an estimate and is subject to changes at the time of ordering. The final cost will be provided to the Consortium at the time of invoicing.
- The Total Charges set forth in Section III, below, are based on the scope of work outlined in this County Purchase. Any changes in scope must be mutually agreed upon by the parties and may result in additional Services Charges. These additional Charges will be executed as an amendment/revision to this County Purchase.
- One-time Services for the design, development, test, and implementation of Enhancements for the Authentication Bot, Welcome Bot, and push notifications will be invoiced on a time and materials basis. Invoices for such Services Charges will be submitted to the Consortium monthly in arrears, and the Consortium will, in turn, invoice the County.
 - The first 2,113 hours worked on these Enhancements will be paid for by the County, after which Contractor may work up to a maximum of 2,212 additional hours to implement the Enhancements. These additional hours worked (after the first 2,113 hours) will be invoiced to the Consortium and an equivalent number of hours will be credited to the Consortium on the same invoice, up to a maximum of 2,212 hours, resulting in net zero charges for those hours.
- The County will be responsible for paying one-time Services Charges associated with the design, development and distribution of reports. Such

Services will be worked and invoiced on a time and materials basis up to a maximum of 588 hours during State Fiscal Year 2020/21. Invoices for such Services Charges will be submitted to the Consortium monthly in arrears, and the Consortium will, in turn, invoice the County.

- With regard to the above-mentioned reports, Contractor will work with the County to refine the requirements for the reports and determine a schedule for their development.
- The Enhancements deployed under this County Purchase will be developed on top of the IVR solution's existing self-service capabilities. The IVR solution's existing self-service capabilities will not be modified.
- The scope of work defined in this County Purchase will be executed under System Change Requests ("SCRs") that will be approved by the CalSAWS Change Control Board.
- SCRs will move through the development lifecycle, following the standard release management process as documented in Volume VI of the System Operations and Support Plan ("SOSP"). SCRs will be signed off by the County's CalSAWS Regional Manager in a timely manner to meet documented target release dates.
- SCRs for the Authentication Bot, Welcome Bot, and push notifications will be implemented in the System by May 31, 2021, unless otherwise mutually agreed in writing.
- Development and testing estimates do not include User Acceptance Testing or Independent Test.
- Contractor will work with the County to develop a schedule for this project. The County will be responsible for completing certain milestones in order to support the project (e.g., confirming the final set of utterances for the customer intents, create responses for each utterance, etc.).
- The Consortium will be responsible for managing all interactions with external stakeholders that are required to enable the project schedule for this County Purchase.
- Implementation of the Enhancements under this County Purchase requires business process transformation efforts to align use of the functionalities with the County's current business processes. The County will fully own the effort around the definition of roles and responsibilities, definition of new processes, job training, change management and communication related to the use of additional functionalities. This County Purchase does not include services for Contractor to assist with the business process transformation effort.
- The Enhancements for the Authentication Bot, Welcome Bot, and push notifications will initially be implemented as a pilot that will run through September 30, 2021. After completion of the pilot, Contractor will work with the County and Consortium to assess the results and provide recommendations for the long-term solution.
 - Any additional Enhancements or modifications to the functionality required for the long-term solution would require additional Services

- Charges. Additional Services Charges will be incorporated into this County Purchase as a revision to the County Purchase.
- If the County would like to decommission the functionality following completion of the pilot, additional Services may be required to implement these modifications in the C-IV System. Additional Services Charges for implementing these modifications will be incorporated into this County Purchase as a revision to the County Purchase.
 - Although the Amazon Lex technology currently supports two languages (English and Spanish), the Enhancements for this pilot will support the English language only. The goals of implementing the Enhancements as a pilot and limiting the scope of the Enhancements to support only English are to gather information regarding the use and business benefits of the bot/virtual agent technology, while also accommodating the County's available budget/funds for this project. After completion of the pilot, Contractor will work with the County and Consortium to assess the information gathered during the pilot, re-evaluate for additional business benefits, determine the viability of expanding the solution to additional Counties, and provide recommendations for the long-term solution. Depending on the information gathered during the pilot, the County may request modifications to the functionality for the long-term solution, including enabling the functionality to support the Spanish language.
 - This County Purchase does not include scope for porting the C-IV System Enhancements implemented under this County Purchase to the LRS/CalSAWS System. It is assumed that the Services required to port these Enhancements to the LRS/CalSAWS System will be funded under the C-IV Project Budget, pending the availability of funds.
 - The Enhancements that will be deployed under this County Purchase will be hosted in the Consortium's CalSAWS AWS Cloud account and will use Amazon Lex as the natural language processor ("NLP").
 - Amazon Web Services ("AWS") and the California Department of Technology ("CDT") will provide ability for Contractor to use AWS organizations to support the scope of work for this County Purchase.
 - CDT is not a party to the Base Agreement nor this County Purchase, but is providing services on behalf of the Consortium critical to the success of the Project. It is the Consortium's responsibility to resolve issues related to CDT and/or the AWS Cloud to enable deployment and management of the virtual agents/bots in the Consortium's CalSAWS AWS Cloud.
 - AWS, CDT, and JHC Technology (the reseller CDT is using) will not disable services or take other actions/inactions that would prevent Contractor from deploying/managing the virtual agents/bots for the Project.

- The Total Charges for this County Purchase does not include any charges for services from AWS for compute resources or other AWS services required for non-production and production operations of the virtual agents/bots solution. The Consortium will be fully responsible for making such resources and services available for supporting the Project, including the procurement and payment for such services from AWS. Because the Consortium's AWS Cloud account (and the Consortium's agreement with CDT for AWS) will be leveraged for the Project, it is assumed that such charges will be invoiced to the Consortium by CDT.
- The estimated compute resources for the pilot project are provided in Attachment 1 (Compute Resources Specifications) to this County Purchase for the Consortium's budgeting purposes and are based on information known by Contractor as of September 1, 2020. The Consortium will pay for AWS compute resources required to support the Enhancements for the Authentication Bot and Welcome Bot through the pilot of these Enhancements. As the work for this Project progresses, Contractor may identify additional compute resources or services that are required for Contractor to manage and operate the virtual agents/bots in the AWS Cloud. In the event Contractor identifies additional compute resources or services required for delivering the Project, Contractor will discuss with the Consortium and the County such compute resources or services. The Consortium is responsible for making such resources available to the Contractor to support the delivery of the Project, including the procurement and funding of those resources.
- If the County would like to continue use of the Enhancements for the Authentication Bot, Welcome Bot, and push notifications following completion of the pilot, the County will be responsible for paying costs for ongoing AWS compute resources required to support use of those Enhancements. The Consortium would invoice the County for such costs for AWS compute resources. Because the Enhancements for the Authentication Bot, Welcome Bot, and push notifications will be implemented as a pilot for this County Purchase, the compute resources required for a long-term solution (if the County requests the implementation of such a solution) may differ from the estimated compute resources required for the pilot. The factors that may change the costs for compute resources for a long-term solution include but are not limited to the following: recommended changes to functionality following the pilot; changes to estimated usage volumes (e.g. changes to usage estimates based on actual usage during the pilot, changes to usage estimates for expansion of the solution to additional counties, etc.); and changes to the cost of compute

resources driven by the AWS Cloud vendor/reseller (e.g. AWS, CDT, JHC Technology).

Assumptions regarding the Authentication Bot Enhancement:

- For the authentication bot, San Bernardino County will decide the order in which the six (6) data points will be presented to the customer in the IVR tree.
- The Enhancement includes the configuration of up to twenty (20) utterances for each of the six (6) data points. Utterances (verbal statements provided by the customer) will be the inputs that the bot will utilize to attempt to determine the customer's intent.
 - Contractor will work with the County to create the utterances that will be configured for each of the six (6) data points.
 - The County will be responsible for confirming the final set of utterances during the one (1) week design phase with the County.
- Design, develop, test, and implement one (1) webservice to support the Authentication Bot Enhancement.

Assumptions regarding the Push Notifications Enhancement:

- This County Purchase does not include any modifications or changes to the two County-selected notifications following their implementation.

Assumptions regarding the Welcome Bot Enhancement:

- The Welcome Bot Enhancement will support up to 50 intents and a maximum of 40 exit points. It is assumed that each exit point will lead to a self-service option or a queue within the IVR. An "intent" is the task the customer is attempting to complete during a call.
- The Enhancement includes the configuration of up to 20 utterances for each intent.
 - Contractor will work with the County to create the utterances that will be configured for each intent.
 - The County will be responsible for confirming the final set of utterances during the one (1) week design phase with the County.

II. Schedule:

The charges associated with this County Purchase will be incurred during State Fiscal Year ("SFY") 2020/21.

III. Total Charges:

The following table outlines the total charges for this County Purchase.

Total County Purchase Charges	SFY 2020/21	Total Charges
One-time Services	\$469,974	\$469,974
One-time Services - IVR Enhancements	\$367,662	\$367,662
One-time Services - Reports	\$102,312	\$102,312
Hardware and Software Charges	\$0	\$0
Hardware Charges	\$0	\$0
Hardware Maintenance and Support Charges	\$0	\$0
Software Charges	\$0	\$0
Software Maintenance and Support Charges	\$0	\$0
Production Operations Charges	\$0	\$0
One Time Charges	\$0	\$0
Recurring Charges	\$0	\$0
Total Charges	\$469,974	\$469,974

IV. Attachment 1 - Compute Resources Specifications

COUNTY PURCHASE APPROVAL

Subject: County Purchase - SB-05-2020

The subject document is accepted as allowing Accenture LLP to proceed with the subject County Purchase.

San Bernardino County - IT

By: _____
Printed Name: _____
Title: _____
Date: _____

San Bernardino County - Budget Authority

By: _____
Printed Name: _____
Title: _____
Date: _____

San Bernardino County - Purchasing

By: _____
Printed Name: _____
Title: _____
Date: _____

Notice Address:
834 Hardt Street
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CalSAWS Consortium

By: _____
Printed Name: _____
Title: _____
Date: _____

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