

Endpoint Detection and Response (EDR) Qualys, Technical Architecture, NIST 800-53 Rev 4, Rev 5, YUBIKEY

Total Charges	SFY 2022/23	SFY 2023/24	SFY 2024/25	SFY 2025/26	Total Charges
Services Charges	\$ 827,436	\$ -	\$ -	\$ -	\$ 827,436
One-Time Charges	\$ 827,436	\$ -	\$ -	\$ -	\$ 827,436
Production Operations Charges	\$ -	\$ -	\$ -	\$ -	\$ -
One-Time Charges	\$ -	\$ -	\$ -	\$ -	\$ -
Recurring Charges	\$ -	\$ -	\$ -	\$ -	\$ -
Total Charges - Estimate for IAPDU	\$ 827,436	\$ -	\$ -	\$ -	\$ 827,436

2a. Staff Loading - Initial

Category		Mar-23	Apr-23	May-23	Jun-23	Jul-23	Total Hours SFY 2022/23	Total Charges SFY 2022/23	Total Charges
Delivery Team	Resource Category	Hourly Rate							
Endpoint Detection Response (EDR)									
Delivery Manager	Onshore	\$158.27	40	40	40		120	\$ 18,992	\$ 18,992
Senior Manager	Onshore	\$158.27	8	8	8		24	\$ 3,798	\$ 3,798
System Administrator	Onshore	\$158.27		160	176		336	\$ 53,179	\$ 53,179
Senior Programmer/Analyst	Onshore	\$158.27		80	88		168	\$ 26,589	\$ 26,589
System Administrator	Onshore	\$158.27					-	\$ -	\$ -
System Administrator	Onshore	\$158.27					-	\$ -	\$ -
NIST 800-53 Rev 5, YUBIKEY							-	\$ -	\$ -
Security Senior Manager (Rev 5)	Onshore	\$158.27	160	160	160		480	\$ 75,970	\$ 75,970
Security Consultant (Rev 5)	Onshore	\$158.27	320	320	320		960	\$ 151,939	\$ 151,939
Security Analyst (FIDO Manager)	Onshore	\$158.27			60		60	\$ 9,496	\$ 9,496
Security System Administrator (FIDO)	Onshore	\$158.27			80		80	\$ 12,662	\$ 12,662
Technical Architecture							-	\$ -	\$ -
CA-247010 Placeholder - Upgrade CalSAWS application from JDK 11 to latest JDK version							-	\$ -	\$ -
Tech Arch - Design	Onshore	\$158.27	80	80	80		240	\$ 37,985	\$ 37,985
Tech Arch - Build	Onshore	\$158.27	160	160	160		480	\$ 75,970	\$ 75,970
Tech Ops - Build	Onshore	\$158.27	80	80	80		240	\$ 37,985	\$ 37,985
CA-252015 - Upgrade CalSAWS auxiliary Aurora MySQL databases to version 8							-	\$ -	\$ -
App Dev (Reports & System Test)	Onshore	\$158.27	466	234	250	490	1,440	\$ 227,909	\$ 227,909
DBA	Onshore	\$158.27	100	100	100	180	480	\$ 75,970	\$ 75,970
Tech Arch	Onshore	\$158.27	20	30	20	50	120	\$ 18,992	\$ 18,992
TOTAL			1434	1452	1622	720	0	5228	\$ 827,436

Please document any assumptions you have below.
This estimate includes service charges only. It does not include HW/SW or AWS Costs required to implement this work.

EDR:
This estimate only includes hours for the time period of March 2023 to May 2023. Additional hours required to continue supporting this work after this time pe-riod will be contracted at a later date.
EDR will be used to meet cyber insurance requirements.
Qualys agents with EDR enabled/deployed on the following devices:
7500 - desktops/laptops - Windows --> Gainwell
1000 - CalSAWS desktops/laptops/and workspaces - Windows
1200 - Linux AWS
140 - Windows AWS
300 - County DC, Data Center, Offices - Windows

Automated response based on threat indicator score will be configured on hosts that would not cause issues to the production environment if a false positive were to be discovered. Alerting will be setup for monitoring/actionable purposes.
EDR Malware protection module may not be enabled on all hosts based performance and availability issues.

Switching to Qualys EDR will allow for replacement of Trellix Endpoint Protection. Plan is to use Qualys EDR with anti-malware protection to replace Trellix Endpoint Protection before the September 2023 renewal of Trellix. Trellix only supports endpoint protection and does not do EDR so far about the same cost, you will get endpoint protection along with EDR in the CalSAWS environment.
An additional 1.25 resources supporting Trellix will be utilized for support of EDR/Anti-Malware platform once implementation is completed. Trellix Operations Team would be refreshed to support Qualys EDR, meaning an overall gain of an additional 1 resource needed to support EDR.

Product Task	Quantity	Cost	Notes
Trellix Endpoint License	13,580	\$450,156/year (9/2023 renewal)	Current: \$428,720/year
Trellix Product Operations	1.25	\$362,600/year	
Trellix Agent Operations and Reporting	364 Hours/year	Efficiency gain (\$53,872)	~1.5 hours/week operations ~4 hours/week reporting
Total		\$845,192/year	w/out efficiency gain and renewal estimate \$791,320/year

Product Task	Quantity	Cost	Notes
Qualys EDR License	12,000	\$162,423/year	
Qualys EDR Product Operations	2.25	\$652,680/year	+1 resources needed to operate at \$290,080/year
Total		\$815,103/year	

- Efficiency gain for operations team consolidating functionality into one agent (Qualys)
- Efficiency gain only accounted for one person's time; however other teams are involved in support of Trellix
- Improved functionality and visibility into Windows and Linux endpoints
- Qualys Agent Operations and Agent Reporting already managed by current operations team
- Qualys Agent is part of project image and is a "set it and forget it" type install

If Qualys EDR licenses are not procured before March 15, 2023, the implementation will be at risk of completing on time before the Trellix Endpoint Protection renewal is needed.

Qualys EDR will be in learning mode for the first two months to identify any tuning needed before enabling automated response. Qualys EDR operations team is staffed to respond to up to 100 alerts per month. Alert response above the defined threshold will result in a new change order to support EDR response.

NIST 800-53 Rev 5, YUBIKEY:
This estimate only includes hours for the time period of March 2023 to May 2023. Additional hours required to continue supporting this work after this time pe-riod will be contracted at a later date.
Rev 5:
Assume CMS - Consortium decision on controls are completed by 3/1/2023.
New controls from Rev 5 will be incorporated
Privacy control considerations will be communicated to Accenture by 3/1/2023.
Control updates will follow deliverable process.
Any 'organization defined' new control parameters do not require hardware/software.

FIDO Tokens for Administrators:
FIDO tokens will be provided to high level administrators of AWS and Azure to prevent MFA fatigue data breaches.
RSA tokens can't be used for this effort as they provide a different functionality than the FIDO tokens.
Hardware support costs include shipping FIDO tokens to half of the admins that may not be local to the area. Price includes USPS priority shipping w/ insurance along with signature on delivery. (~\$15 per mail)
FIDO tokens purchased after the current FY are utilized for lost/stolen/damaged tokens, ~10% per year.
FIDO tokens are considered project assets and will need to be returned by administrators if they roll-off the project for new administrators to utilize.
FIDO tokens are to only be used for project related access.
AWS can likely provide free FIDO tokens using the AWS Free Token program. <https://aws.amazon.com/security/amazon-security-initiatives/free-mfa-security-key/>

Technical Architecture:
Several of these SCRs have App Dev Dependencies so the duration shown will vary based on AppDev capacity
OPs, AppDev and ST hours are also included

The SCRs highlighted in Bold include hours for all teams (AppDev and Tech)
One additional FTE requested in M&O to support all additional frameworks are enhancements
HW/SW (LoadRunner Cloud) included separately under Lisa and Jerry's estimates, not included here
AWS including Confluent of \$150k per year given to Gaurav, not included here
Prototypes/Design/Modernization by line item represents Design only effort; Build/Test estimates added in aggregate as a budget placeholder but will need to be refined during Design

Tech Arch IAPDU Enhancement SCRs	
<ul style="list-style-type: none">Serverless MigrationMicro Services (Architecture/Third Party components)<ul style="list-style-type: none">LookupSpecChartPerson SearchEDBCPrototypes/Design/Modernization<ul style="list-style-type: none">Data Mesh/Event Driven ArchitectureGraphQLAPI Registry/Service DiscoveryTest Data ManagementData Layer DecompositionCaching OptimizationDockerizeAI/MLAWS ServicesLocal development stack enhancements	<ul style="list-style-type: none">Upgrades<ul style="list-style-type: none">JAVA/WL/Oracle DB/SpringData Layer Decomposition<ul style="list-style-type: none">TasksJournalJVROther domainsOther Enhancements<ul style="list-style-type: none">ForgeRock Manage Personnel functionalitySession management enhancements for Lobby and AuditLobby Management Prediction enhancementsMonitoring Dashboard enhancementsInfrastructure enhancements - VPC EndpointsDatabase Resiliency and automatic failovers

SCR numbers for Technical Architecture:
CA-252015: Upgrade CalSAWS auxiliary Aurora MySQL databases to version 8:
Description: The Aurora MySQL database version used for CalSAWS auxiliary databases is version 5.7. Amazon Aurora MySQL-Compatible Edition now supports MySQL major version 8.0. MySQL 8.0 includes improved performance functionality from enhancements such as instant DDL to speed up the overall process of creating and loading a table and its associated indexes and SKIP LOCKED and NOWAIT options to avoid waiting for other transactions to release row locks. MySQL 8.0 adds developer productivity features such as window functions to more easily solve query problems and common table expressions to enable use of named temporary result sets. It also includes JSON functionality additions, new security capabilities, and more. MySQL 8.0 on Aurora MySQL-Compatible Edition supports popular Aurora features including Global Database, RDS Proxy, Performance Insights, and Parallel Query.
The work outline in this attachment covers:
1. Upgrade non-production CalSAWS auxiliary Aurora MySQL databases to version 8.
2. Test products and application functionality is not impacted across all functional areas as a result of the upgrade.
3. Execute online and batch performance tests with the version 8 release to confirm that performance complies with current SLA standards.
4. Remediate any functional or performance issues falling out of the version 8 upgrade.
5. Upgrade production CalSAWS auxiliary Aurora MySQL databases to version 8.

CA-247010 - Upgrade CalSAWS application from JDK 11 to latest JDK version. This estimate only includes hours for the time period of March 2023 to May 2023. Additional hours required to continue supporting this work after this time period will be contracted at a later date. The work outline in this attachment only covers the following parts of SCR CA-247010:
Design - Finalize the supporting compatibility matrix for CalSAWS and Spring Boot applications
Build - Compile and deploy application with JAVA 17 version on OnE environment
Build - Upgrade the OnE environment to JAVA 17 and supporting deployment pipeline
Assumption: the remainder of the work for this SCR CA-247010 will be submitted in another change notice for the next fiscal year.

	LRS R&A	Change Notice Number
Total Baseline Allocation	\$92,000,000.00	
Amendment 23 Allocation	\$50,000,000.00	
Amendment 30 Allocation	\$42,000,000.00	
Total Allocated Amounts (sum of items below)	\$ 60,077,834.00	
CalHEERS Maintenance	\$ 3,470,952.00	FIVE
SB 1341 Maintenance	\$ 2,088,345.00	FIVE
Stage One Continuous Eligibility (Child Care Provider Portal)	\$ 2,383,800.00	FIVE
Homeless Assistance Automation	\$ 585,000.00	SIX
CalFresh Safe Drinking Water Pilot	\$ 1,134,480.00	SIX
Los Angeles County Workforce Management	\$ 38,976.00	SIX
LRS M&O Training Environment	\$ 281,098.00	SEVEN
ForgeRock IAM Enterprise Enablement	\$ 4,156,229.00	SEVEN
CalSAWS APIs for Statewide Portal Integration	\$ 2,932,480.00	SEVEN
Los Angeles County DCFS IVR Call Flow	\$ 137,060.00	EIGHT
Continuum of Care Automation	\$ 499,989.00	EIGHT
Earned Income Disregard	\$ 560,628.00	EIGHT
LRS Modifications and Enhancements Services for State Fiscal Year 2020/2021	\$ 699,380.00	EIGHT
LRS Modifications and Enhancements Services for State Fiscal Year 2020/2021	\$ 2,261,127.00	NINE
CalHEERS Maintenance (for Change Notice No. FIVE)	\$ (3,470,952.00)	TEN
CalHEERS Maintenance	\$ 3,883,724.00	TEN
Medi-Cal Redetermination Forms	\$ 1,800,900.00	TEN
Medi-Cal Full Scope Expansion	\$ 536,268.00	TEN
CalSAWS API Integration for BenefitsCal/GetCalFresh	\$ 1,238,837.00	TEN
LRS Modifications and Enhancements Services for State Fiscal Year 2021/2022	\$ 1,331,242.00	TEN
CalWORKs Time Clock	\$ 1,204,950.00	ELEVEN
CalWORKs Child Support Pass-Through to Families	\$ 165,822.00	ELEVEN
Elderly Simplified Application Project	\$ 499,902.00	ELEVEN
Pandemic Emergency Assistance Fund	\$ 174,000.00	ELEVEN
Stage One Continuous Eligibility (Child Care Provider Portal) (for Change Notice No. FIVE)	\$ (2,383,800.00)	ELEVEN
Stage One Continuous Eligibility (Child Care Provider Portal)	\$ 2,383,800.00	ELEVEN
CalFresh Public Assistance Definition Alignment	\$ 574,896.00	ELEVEN
ForgeRock IAM Maintenance and Operations	\$ 1,243,200.00	ELEVEN
CalHEERS Maintenance (for Change Notice No. TEN)	\$ (3,883,724.00)	TWELVE
CalHEERS Maintenance	\$ 4,331,733.00	TWELVE
Extended C-IV Post-Deployment Support	\$ 300,000.00	TWELVE
CDSS Reports Support	\$ 299,976.00	THIRTEEN
CalSAWS Correspondence	\$ 4,329,375.00	THIRTEEN
Additional CalSAWS M&E Services for SFY 2021/22	\$ 670,590.00	THIRTEEN
CalSAWS Accessibility Testing	\$ 143,320.00	FOURTEEN
Functional Support	\$ 545,194.00	FIFTEEN
Removal of Homeless Assistance \$100 Asset Limit	\$ 34,800.00	FIFTEEN
Transitional Housing Supplement	\$ 340,692.00	FIFTEEN
Cal-OAR	\$ 87,000.00	FIFTEEN

CalFresh Overissuances (Brown-Tapia)	\$	17,400.00	FIFTEEN
Additional CalSAWS M&E Services for SFY 2021/22	\$	1,024,323.00	FIFTEEN
ARPA	\$	272,658.00	SIXTEEN
ARPA (Change Notice No. SIXTEEN)	\$	(272,658.00)	SEVENTEEN
ARPA (Revised for Change Notice No. SEVENTEEN)	\$	551,928.00	SEVENTEEN
Virtual Assistants	\$	2,543,913.00	EIGHTEEN
Functional Support (for Change Notice No. 15)	\$	(545,194.00)	NINETEEN
Functional Support	\$	4,784,052.00	NINETEEN
BenefitsCal Technical Help Desk, Contact Center, ServiceNow	\$	185,238.00	NINETEEN
CalFresh Overissuances (Brown-Tapia) (Change Notice FIFTEEN)	\$	(17,400.00)	TWENTY
CalFresh Overissuances (Brown-Tapia) (Revised for Change Notice TWENTY)	\$	216,456.00	TWENTY
Transitional Housing Supplement (Change Notice FIFTEEN)	\$	(340,692.00)	TWENTY
Transitional Housing Supplement (Revised for Change Notice TWENTY)	\$	427,692.00	TWENTY
Removal of Homeless Assistance \$100 Asset Limit (Change Notice FIFTEEN)	\$	(34,800.00)	TWENTY
Removal of Homeless Assistance \$100 Asset Limit (Revised for Change Notice TWENTY)	\$	132,240.00	TWENTY
Elderly Simplified Application Project (ESAP) (Change Notice ELEVEN)	\$	(499,902.00)	TWENTY
Elderly Simplified Application Project (ESAP) (Revised for Change Notice TWENTY)	\$	499,902.00	TWENTY
CalFresh Simplifications	\$	243,600.00	TWENTY
Stage One Continuous Eligibility Child Care Provider Portal (Change Notice No. ELEVEN)	\$	(2,383,800.00)	TWENTY
Stage One Continuous Eligibility (Child Care Provider Portal) (Revised for Change Notice TWENTY)	\$	2,383,800.00	TWENTY
Medi-Cal Redetermination Forms (Change Notice TEN)	\$	(1,800,900.00)	TWENTY
Medi-Cal Redetermination Forms (Revised for Change Notice TWENTY)	\$	2,382,756.00	TWENTY
CalFresh Public Assistance Definition Alignment (Change Notice ELEVEN)	\$	(574,896.00)	TWENTY
CalFresh Public Assistance Definition Alignment (Revised for Change Notice TWENTY)	\$	574,896.00	TWENTY
Resume Pre-Pandemic Medi-Cal Operations	\$	174,000.00	TWENTY
CalWORKs Time Clock (Change Notice No. ELEVEN)	\$	(1,204,950.00)	TWENTY
CalWORKs Time Clock (Revised for Change Notice No. TWENTY)	\$	1,633,164.00	TWENTY
Pandemic Emergency Assistance Fund (Change Notice No. ELEVEN)	\$	(174,000.00)	TWENTY
Pandemic Emergency Assistance Fund (Revised for Change Notice No. TWENTY)	\$	402,636.00	TWENTY
Additional CalSAWS M&E Services for BenefitsCal Portal Support for SFY 2022/23	\$	1,047,431.00	TWENTY ONE
CF Notice of Denial or Pending Status	\$	552,450.00	TWENTY ONE
Virtual Assistants (Change Notice No. EIGHTEEN)	\$	(2,543,913.00)	TWENTY ONE
PHE Additional Contact Attempt	\$	84,390.00	TWENTY TWO
Earned Income Disregard (SB 80) (Change Notice EIGHT)	\$	(560,628.00)	TWENTY TWO
Earned Income Disregard (SB 80) (Revised for Change TWENTY TWO)	\$	530,874.00	TWENTY TWO
Prepopulated Medi-Cal Redetermination Forms (Revised for Change Notice TWENTY)	\$	(2,382,756.00)	TWENTY TWO
Prepopulated Medi-Cal Redetermination Forms (Revised for Change Notice TWENTY TWO)	\$	3,240,228.00	TWENTY TWO
Transitional Nutrition Benefits Recertification Hold (Auto)*	\$	259,956.00	TWENTY TWO
Resume Pre-Pandemic Medi-Cal Operations (Change Notice TWENTY)	\$	(174,000.00)	TWENTY TWO
Resume Pre-Pandemic Medi-Cal Operations (Revised for Change Notice TWENTY TWO)	\$	1,220,958.00	TWENTY TWO
Mass Notice - End of CalFresh Emergency Allotments	\$	315,816.00	TWENTY THREE
Cal-OAR Modifications & Cal-OAR Client Satisfaction Survey (Change Notice FIFTEEN)	\$	(87,000.00)	TWENTY THREE
Cal-OAR Modifications & Cal-OAR Client Satisfaction Survey (Revised for Change Notice TWENTY THREE)	\$	260,887.00	TWENTY THREE
Healthy Futures for Foster Youth	\$	173,970.00	TWENTY THREE

CalFresh Discontinuance of Gambling Wins	\$	453,833.00	TWENTY THREE
CalFresh Simplifications (Change Notice Twenty)	\$	(243,600.00)	TWENTY THREE
CalFresh Simplifications (Revised for Change Notice TWENTY THREE)	\$	750,271.00	TWENTY THREE
CDSS Reports Support Phase II	\$	371,490.00	TWENTY THREE
ARPA (Change Notice SEVENTEEN)	\$	(551,928.00)	TWENTY FOUR
ARPA (Revised for Change Notice TWENTY FOUR) FFY 22	\$	127,368.00	TWENTY FOUR
ARPA (Revised for Change Notice TWENTY FOUR) FFY 23	\$	2,208,792.00	TWENTY FOUR
Additional CalSAWS M&E Hours for SFY 2022-23	\$	678,662.00	TWENTY FOUR
BenefitsCal AT5 and STG3 Environments	\$	390,720.00	TWENTY FIVE
CalWIN Training Laptop Imaging	\$	56,977.00	TWENTY FIVE
Correspondence Additional Hours	\$	2,317,301.00	TWENTY FIVE
Data Growth - Cost Avoidance	\$	1,466,637.00	TWENTY FIVE
New Required Notices and STAT 47 Report Modification	\$	28,095.00	TWENTY FIVE
CalWIN Functional Support (Change Notice NINETEEN)	\$	(4,784,052.00)	TWENTY FIVE
CalWIN Functional Support (Revised for Change Notice TWENTY FIVE)	\$	5,777,772.00	TWENTY FIVE
Security - EDR, Tech Arch, NIST	\$	827,436.00	TWENTY FIVE
CalSAWS HA and DR API Gateway over to DR East	\$	50,646.00	TWENTY FIVE
Insert above this line			
Total Remaining Allocation (Row 2 less Row 3)		\$31,922,166.00	