

Data Growth - Cost Avoidance: Archive Phase 1 & 2

Total Charges	SFY 2022/23	SFY 2023/24	SFY 2024/25	SFY 2025/26	Total Charges
Services Charges	\$ 1,466,637	\$ -	\$ -	\$ -	\$ 1,466,637
One-Time Charges	\$ 1,434,077			\$ -	\$ 1,434,077
Recurring Charges	\$ 32,560			\$ -	\$ 32,560
Production Operations Charges	\$ -	\$ -	\$ -	\$ -	\$ -
One-Time Charges	\$ -			\$ -	\$ -
Recurring Charges	\$ -	\$ -	\$ -	\$ -	\$ -
Total Charges - Estimate for IAPDU	\$ 1,466,637	\$ -	\$ -	\$ -	\$ 1,466,637

Category			Feb-23	Mar-23	Apr-23	Total Hours SFY 2022/23	Total Charges SFY 2022/23	Total Charges
Delivery Team	Resource Category	Hourly Rate						
Archive Phase 1								
Design								
AppDev	Onshore	\$158.27		176	16	192	\$ 30,387.84	\$ 30,387.84
AppDev	Offshore	\$125.00		360	45	405	\$ 50,625.00	\$ 50,625.00
Tech Arch	Onshore	\$158.27		220		220	\$ 34,819.40	\$ 34,819.40
Performance	Onshore	\$158.27		60		60	\$ 9,496.20	\$ 9,496.20
ForgeRock	Onshore	\$158.27		15		15	\$ 2,374.05	\$ 2,374.05
Tech Ops	Onshore	\$158.27		80		80	\$ 12,661.60	\$ 12,661.60
Build								
AppDev/M&E	Onshore	\$158.27		1120	640	1,760	\$ 278,555.20	\$ 278,555.20
AppDev	Offshore	\$125.00		1800	1440	3,240	\$ 405,000.00	\$ 405,000.00
Tech Arch	Onshore	\$158.27		240	240	480	\$ 75,969.60	\$ 75,969.60
Performance	Onshore	\$158.27		60	60	120	\$ 18,992.40	\$ 18,992.40
ForgeRock	Onshore	\$158.27		54	40	94	\$ 14,877.38	\$ 14,877.38
DBA	Onshore	\$158.27		252	126	378	\$ 59,826.06	\$ 59,826.06
Tech Ops	Onshore	\$158.27		440	360	800	\$ 126,616.00	\$ 126,616.00
Test								
AppDev	Onshore	\$158.27		160	80	240	\$ 37,984.80	\$ 37,984.80
AppDev	Offshore	\$125.00		270	360	630	\$ 78,750.00	\$ 78,750.00
Management								
App/M&E	Onshore	\$158.27		206	104	310	\$ 49,063.70	\$ 49,063.70
Tech Arch/Performance	Onshore	\$158.27		80	40	120	\$ 18,992.40	\$ 18,992.40
ForgeRock	Onshore	\$158.27		10	5	15	\$ 2,374.05	\$ 2,374.05
Tech Ops	Onshore	\$158.27		80	40	120	\$ 18,992.40	\$ 18,992.40
Archive Phase 2								
Design								
AppDev	Onshore	\$158.27			8	8	\$ 1,266.16	\$ 1,266.16
Tech Arch	Onshore	\$158.27			20	20	\$ 3,165.40	\$ 3,165.40
Performance	Onshore	\$158.27					\$ -	\$ -
ForgeRock	Onshore	\$158.27					\$ -	\$ -
Tech Ops	Onshore	\$158.27			40	40	\$ 6,330.80	\$ 6,330.80
Build								
AppDev	Onshore	\$158.27					\$ -	\$ -
AppDev	Offshore	\$125.00					\$ -	\$ -
Tech Arch	Onshore	\$158.27					\$ -	\$ -
Tech Arch	Offshore	\$125.00					\$ -	\$ -
Performance	Onshore	\$158.27					\$ -	\$ -
ForgeRock	Onshore	\$158.27					\$ -	\$ -
DBA	Onshore	\$158.27			84	84	\$ 13,294.68	\$ 13,294.68
Tech Ops	Onshore	\$158.27			480	480	\$ 75,969.60	\$ 75,969.60
Test								
AppDev	Onshore	\$158.27					\$ -	\$ -
AppDev	Offshore	\$125.00					\$ -	\$ -
Management								
AppDev	Onshore	\$158.27			9	9	\$ 1,361.12	\$ 1,361.12
Tech Arch/Performance	Onshore	\$158.27					\$ -	\$ -
ForgeRock	Onshore	\$158.27					\$ -	\$ -
Tech Ops	Onshore	\$158.27			40	40	\$ 6,330.80	\$ 6,330.80
Test Data Slicer, Scrubber Capability								
Design								
AppDev	Onshore	\$ 158.27					\$ -	\$ -
AppDev	Offshore	\$ 125.00					\$ -	\$ -
Build								
AppDev	Onshore	\$ 158.27					\$ -	\$ -
AppDev	Offshore	\$ 125.00					\$ -	\$ -
Tech Arch	Onshore	\$ 158.27					\$ -	\$ -
TechOps	Onshore	\$ 158.27					\$ -	\$ -
DBA	Onshore	\$ 158.27					\$ -	\$ -
Test								
AppDev	Onshore	\$ 158.27					\$ -	\$ -
AppDev	Offshore	\$ 125.00					\$ -	\$ -
Tech	Onshore	\$ 158.27					\$ -	\$ -
Management								
AppDev	Onshore	\$ 158.27					\$ -	\$ -
Tech Arch	Onshore	\$ 158.27					\$ -	\$ -
TechOps	Onshore	\$ 158.27					\$ -	\$ -
DBA	Offshore	\$ 125.00					\$ -	\$ -
Design/Prototype - Decoupling Task Management (Design Only)								
	Onshore	\$ 158.27				0	\$ -	\$ -
CA-242666 Enhance Journal functionality to reduce Journal table data size								
	Onshore	\$ 158.27				0	\$ -	\$ -
Build Decoupling Task Management								
	Onshore	\$ 158.27				0	\$ -	\$ -
TOTAL			0	5683	4277	9,960	\$ 1,434,076.64	\$ 1,434,076.64

2b. Staff Loading - M&O

Category		Jan-23	Feb-23	Mar-23	Apr-23	Total Hours SFY 2022/23	Total Charges SFY 2022/23	Total Charges
Maintenance and Operations (M&O)	Hourly Rate							
Archive Phase 1								
Tech Arch	\$ 148.00					0	\$ -	\$ -
ForgeRock	\$ 148.00					0	\$ -	\$ -
DBA	\$ 148.00				72	72	\$ 10,656.00	\$ 10,656.00
AppDev (Level 3 support)	\$ 148.00					0	\$ -	\$ -
Tech Ops	\$ 148.00				148	148	\$ 21,904.00	\$ 21,904.00
						0	\$ -	\$ -
Archive Phase 2								
Tech Arch	\$ 148.00					0	\$ -	\$ -
ForgeRock	\$ 148.00					0	\$ -	\$ -
Tech Ops	\$ 148.00					0	\$ -	\$ -
DBA	\$ 148.00					0	\$ -	\$ -
AppDev (Level 3 Support)	\$ 148.00					0	\$ -	\$ -
						0	\$ -	\$ -
Test Data Slicer/Scrubber Capability								
AppDev (Level 3 Support)	\$ 148.00					0	\$ -	\$ -
						0	\$ -	\$ -
TOTAL		0	0	0	220	220	\$ 32,560.00	\$ 32,560.00

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.
This estimate only includes hours for the time period of March 2023 to April 2023. Additional hours required to continue supporting this work after this time pe-riod will be contracted at a later date.

Archive Phase 1 Assumptions

General assumptions:
Annual database spend growth is 18%.

Development is expected to run from March 2023 - July 2023. However this pricing sheet only reflects the time period of March 2023 to April 2023.

Operations is expected to run from April 2023 - November 2024. However this pricing sheet only reflects the time period of March 2023 to April 2023.
If database spend growth is more than 18%, additional incremental funding for storage will be required.
No requirement for Report to have any additional infrastructure.
Secondary database will be sized at 10% of the current production.
Nine environments will need an Archival solution to be in place.
Each environment will need 2 Aurora PostgreSQL RDS (a total of 18 Aurora PostgreSQL RDS).
Each RDS storage will be sized at 10% of the Production Primary Oracle Database.
Each RDS compute will be sized at the current computing capacity of Production MISC Aurora MySQL RDS (db.r5.4xlarge).
Cyclic/Scheduled Batch jobs will be used to migrate the one off DCRs, which will create entries in the Primary database.
DDL sync between Primary and Archive database - Increased Operational work (Meds Alert).
One time migration will be performed to offload the data from primary to archive database.
Cyclic/Scheduled Batch jobs will continue to migrate the older data every month.
Less than 0.05% of transactions access data older than 3 years. ~100 requests per day.
The Archive database will be the future database for EDBC/Fiscal or Correspondence Microservices.
Not expected to go through RWR (Release When Ready); expectation is that it will go through the standard release cycle.

Tech Arch:
M&O Support for first 2 months of new pipelines (deployment mechanism for build and deploy) (Total = 20 hours / month @ 2 Months)

ForgeRock (FR):
Support Release (Monthly); API leverages FR authentication; 1 Hour per month per env (total of 8 environments); one env is DB only and not supported by FR (thus, no cost estimated for FR under M&O)
Security - Code Scan and Remediation (weekly) 0.5 Hours per environment (18)
Production Monitoring and instrumentation support (Dynatrace, Splunk) (Total = 4 hours / month)

DBA:
Long Term DB support is estimated at 4 hours per month per instance with a total of 18 instances. This includes build support, environment support, monitoring, incident support, security activities, data refreshes, patching activities, and change management.

AppDev (Level 3 support):
This archive is a new and first-time approach in CalSAWS due to which the Consortium and County users will reach out to AppDev via tickets, queries, and clarification. The inflow of tickets/queries will be high in the beginning before it gets to a stable state. The M&O L3 Help Desk Support estimates for AppDev have been added accordingly.

Tech Ops:

Build & Deployment (Monthly); Archival Build, Deployment and Code Merges, 1 hour effort, 10 deployments for 9 environments per month (90)
Support schedule archival data migration (Monthly); 2 hours per env, per month (18)
Support Event driven Async processing and handle failovers (Monthly) 2 hours per env, per month (18)

Archive Phase 2 Assumptions

General assumptions:
Annual database spend growth is 18%.
Development is from April 2023 - November 2023. However this pricing sheet only reflects the time period of March 2023 to April 2023.
Operations is from October 2023 - April 2025. However this pricing sheet only reflects the time period of March 2023 to April 2023.
If database spend growth is more than 18%, additional incremental funding for storage will be required.
No requirement for Report to have any additional infrastructure.
Secondary DB will be sized at 10% of the current production.
Nine environments will need an Archival solution to be in place.
Each environment will need 1 Aurora PostgreSQL RDS (a total of 9 Aurora PostgreSQL RDS).
Each environment will need 1 DynamoDB (a total of 9 DynamoDB).
Each RDS storage will be sized at 10% of the Production Primary Oracle Database.
Each RDS compute will be sized at the current computing capacity of Production MISC Aurora MySQL RDS (db.r5.4xlarge).
Cyclic/Scheduled Batch jobs will be used to migrate the one off DCRs, which will create entries in Primary database.
DDL sync between Primary and Archive database - Increased Operational work (Meds Alert).
One time migration will be performed to offload the data from primary to archive database.
Cyclic/Scheduled Batch jobs will continue to migrate the older data every month.
Less than 0.05% of transactions access data older than 3 years. ~100 requests per day.
DDL sync between Primary and Archive database - Increased Operational work.
The Archive database will be the future database for EDBC/Fiscal or Correspondence Microservices.
Not expected to go through RWR (Release When Ready); expectation is that it will go through the standard release cycle.

Explanation highlighting complexity of Archive Phase 2 Microservices:
The Tech Arch delivery will require advanced RDS / Oracle skills to re-architect the data model to retrieve data correctly.
One time effort will be required to integrate archival architecture pattern into IAC pipelines.

Operational Readiness Testing will be performed against new architecture patterns to validate disaster recovery capability within existing RTO / RPO.

Creating the archival Architecture to be able to gracefully scale / down up will require incremental skills are brought onto the CalSAWS program.

Tech Arch:
M&O Support for first 2 months of new pipelines (deployment mechanism for build and deploy) (Total = 20 hours / month @ 2 Months)

ForgeRock (FR):
Support Release (Monthly); API leverages FR authentication; 1 Hour per month per env (total of 8 environments); one env is DB only and not supported by FR (thus, no cost estimated for FR under M&O)
Security - Code Scan and Remediation (weekly) 0.5 Hours per environment (18)
Production Monitoring and instrumentation support (Dynatrace, Splunk) (Total = 4 hours / month)

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Tech Ops:

Build & Deployment (Monthly); Archival Build, Deployment and Code Merges, 1 hour effort, 10 deployments for 9 environments per month (90)
Support schedule archival data migration (Monthly); 2 hours per env, per month (18)
Support Event driven Async processing and handle failovers (Monthly) 2 hours per env, per month (18)

	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	