ITEM: 2.1
(ID # 20065)
MEETING DATE:
Tuesday, October 04, 2022

FROM :   ASSESSOR-COUNTY-CLERK-RECORDER:

SUBJECT: ASSESSOR - COUNTY CLERK - RECORDER: Receive and File Trusted System Documentation. [$0]

RECOMMENDED MOTION: That the Board of Supervisors:
1. Receive and File Trusted System Documentation Overview for retention of electronic records.

ACTION:Consent

Douglas Cady

Douglas Cady, Assistant Assessor County Clerk Recorder   9/13/2022

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Perez, seconded by Supervisor Jeffries and duly carried by unanimous vote, IT WAS ORDERED that the above matter is received and filed as recommended.

Ayes:	Jeffries, Spiegel, Washington, Perez and Hewitt
Nays:	None
Absent:	None
Date:	October 4, 2022
xc:	ACR

Kecia R. Harper
Clerk of the Board
By: *Brigma Smith*
Deputy

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 0	$ 0	$ 0	$ 0
NET COUNTY COST	$ 0	$ 0	$ 0	$ 0
SOURCE OF FUNDS: N/A			Budget Adjustment: No	
			For Fiscal Year: N/A	

C.E.O. RECOMMENDATION: Approve.

BACKGROUND:

Summary

The Assessor-County Clerk-Recorder (ACR) has developed a cloud based trusted system solution. This solution allows official records to be managed and maintained solely in electronic format, in accordance with Board Policy A-43, and in compliance with applicable state laws and record management standards.

Pursuant to Government Code section 12168.7, the County may store public records in an electronic format providing it is electronically recorded in a "Trusted System". The State of California defines a trusted system as "a combination of technologies, policies, and procedures for which there is no plausible scenario in which a public record retrieved from or reproduced by the system could differ substantially from the public record that is originally stored."

The Secretary of State, in consultation with the Department of General Services, has identified uniform standards for recording, storing, and reproducing permanent and nonpermanent documents or records in electronic media. These regulations list recommended standards by the American National Standards Institute (ANSI) and the Association for Information and Image Management (AIIM) and provide specific conditions that would meet the definition of trusted system, as provided in Government Code section 12168.7.

The ACR developed trusted system leverages a cloud-based solution to manage and maintain permanent and nonpermanent official records while complying with the regulatory requirements prescribed in Government Code 12168.7. The cloud-based storage solution is immutable by design, replicated across multiple geographical zones, features a robust version control mechanism, and adheres to stringent industry standards, making the data secure and trustworthy. Furthermore, the system conforms to Board approved retention policies and can be replicated across County departments.

Cost Benefit Analysis

The County currently utilizes an approved vendor to store County physical records. Departments face increased cost to manage and maintain records in storage facility as their inventories continue to grow. Additionally, remote storage of physical records is inefficient as it poses logistical difficulties and additional fees related to the retrieval of required records. Preliminary cost comparison shows an annual 44% savings when using cloud storage solutions over vendor storage facilities.

Impact on Residents and Businesses

The residents and businesses of Riverside County benefit from the efficiencies gained through the implementation of records and information management initiatives, including the availability of clearly identifiable records of county government.

ATTACHMENTS: Trusted System Documentation

Kristine Bell-Valdez
Kristine Bell-Valdez, Supervising Deputy County Counsel   9/21/2022

TRUSTED SYSTEM
DOCUMENTATION

2022

September 01, 2022

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1.0   EXECUTIVE SUMMARY

The purpose of this document is to provide an overview of the Assessor-County Clerk-Recorder's (ACR) cloud-based Trusted System solution. This solution will allow official records to be managed and maintained solely in electronic format, in accordance with Board Policy A-43, and in compliance with appliable state laws relating to Trusted Systems.

The State of California defines a Trusted System as "a combination of techniques, policies, and procedures for which there is no plausible scenario in which a document retrieved from or reproduced by the system could differ substantially from the document that is originally stored."

With the guidance of the Riverside County Records Management and Archive Program (RMAP), the ACR has designed a Trusted System that leverages a cloud-based solution to manage and maintain permanent and non-permanent official records while complying with the regulatory requirements.

2.0   TRUSTED SYSTEM OVERVIEW

Any Trusted System must begin with a review of the processes and procedures associated with the entire environment in which the Electronically Stored information (ESI) is stored. This includes reviewing not only the actual processes and procedures but also the Business Practices Documentation (BPD).

An evaluation shall be made regarding how records, documents or information are ingested (e.g., how hardcopy is converted into electronic format); how the system manages, logs, tracks, and secures the electronic information; and how the system (including hardware)

ensure the storage of the information is secured, preventing unauthorized alteration, modification and/or deletion.

2.1 Two Separate Copies

A Trusted System must include a process to store and maintain at least two separate copies of the official document in two different physical locations with at least one copy being stored in a storage technology that does not permit any modifications, alterations, or deletions outside the control of the Trusted System.

2.2 Version Control

Trusted Systems support the concept of ESI readability. Readability is the ability of the system to accurately reproduce the stored information in a consistent fashion over a period of time without modification to the original content in any way that materially changes what was originally stored. A Trusted System's design should be configured to enable users to store records utilizing version control for locating and retrieving previous versions of the document.

2.3 Retention Policy

A Trusted System design manages and implements record retention policies. When the Trusted System configuration enables users to store documents utilizing version controls, the organizational retention schedule/policy should clearly define when the system shall automatically delete the versions or revisions stored in the Trusted System repository.

3.0 PHASE 1 - THE ACR TRUSTED SYSTEM

An agile collaboration between technical specialists, subject matter experts, business partners and vendors designed the Trusted System architecture that leveraged a cloud-based AWS storage solution. The Trusted System team created a framework that can be used across

multiple departments, leveraging AWS cloud-based platform and storage services that are designed to provide security, scalability, high availability, and low latency.

Trusted System High-level Architecture
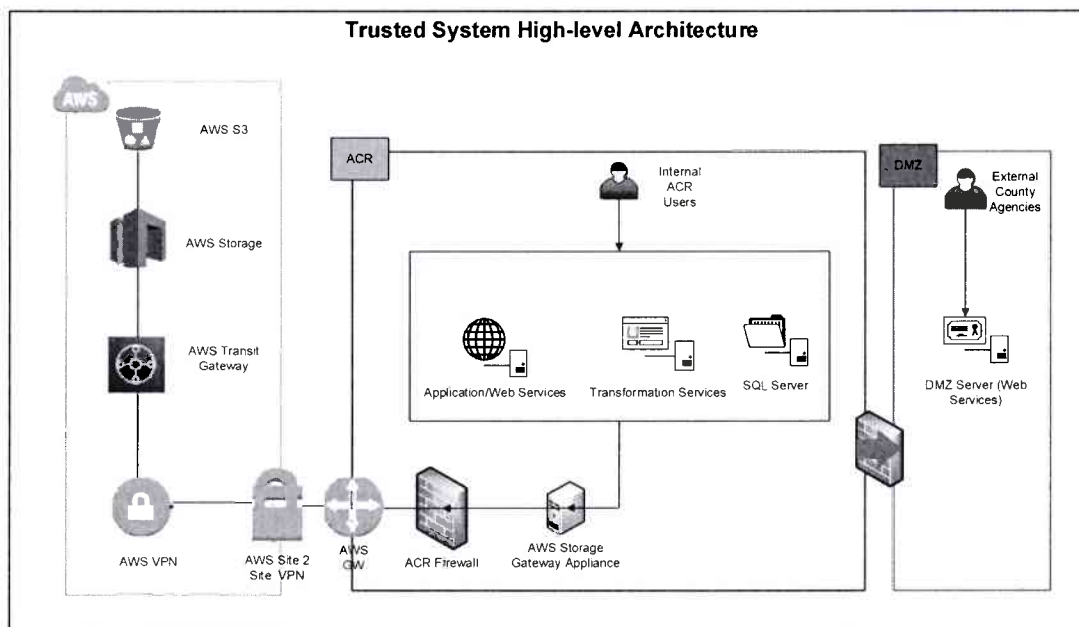
The initial deployment of the ACR Trusted System onboarded the ACR Human Resource Division. The implementation, operation, and certification of the ACR's Trusted System was completed first quarter of 2022. The design leveraged Amazon's Web Services (AWS) S3 platform to securely store the 2021 and 2022 Annual Policy Acknowledgement Packets.

3.1   System Security

The ACR Trusted System meets the industry's best practice standards for information security policies. External connections to the system are encrypted and restricted to authorized users only using an encrypted VPN solution or other network technology preventing ESI from being accessed and / or transmitted in a fashion that could be intercepted. System configuration is established to only allow authorized users access to various classes and types of documents including upload, read, download and other controls.

3.2   Cohasset Associates Assessment

Cohasset Associates, an independent consulting firm that supports a multitude of regulated organizations, assessed the functionality of Amazon S3 relative to the recording, storage, and retention requirements for electronic records specified by industry security standards. Cohasset's evaluation concluded that Amazon S3 provides configurable features, such as Object Lock – Compliance mode, that prevents modification, overwrite and deletion, until eligible. The fundamental capabilities of Amazon S3, immutably stores record objects and certain metadata. The versioning feature ensures that objects are not overwritten, and instead a new version is created. Each record object is protected from deletion, by users and by lifecycle policies.

4.0   COUNTY RECORDS MANAGEMENT AND ARCHIVE POLICY

The Riverside County Records Management and Archives Program (RMAP) is mandated by the Board of Supervisors to manage countywide public records while complying with the approved standards. These standards and retention requirements can be found at http://rmap.asrclkrec.org/ApprovedRRS.asp (Intranet website). RMAP works closely with other County departments and agencies to ensure that state laws are being followed along with Board Policy A-43. Departments, as defined by Policy A-43, shall use Board approved general and departmental records retention schedules that specify various records series, their retention periods, and any restriction or specifications regarding their retention, disposition, and destruction.

4.1   Retention Policies

County records, as defined by Policy A-43, shall only be destroyed: (1) in accordance with an approved records retention schedule listed in this standard; or (2) after reformatting to required standards; or (3) with specific permission of the Board of Supervisors. The disposition of County records shall be fully documented using forms developed by RMAP and made available via RMAP's intranet website. This documentation shall include, at minimum, a reference to the current approved retention schedule used to support the legal disposition of the records; the applicable record series; the range of records covered by that series, and the date range of the records.

All approvals of the destruction of records shall include certification by the head of the department, or their designee, that the records are not required in relation to active or likely litigation or for audit purposes. Departments may dispose of duplicate records when they are no longer needed to support business processes. This policy gives the RMAP the administrative function over records retention, including developing procedures, auditing, and compliance of the County wide records retention program.

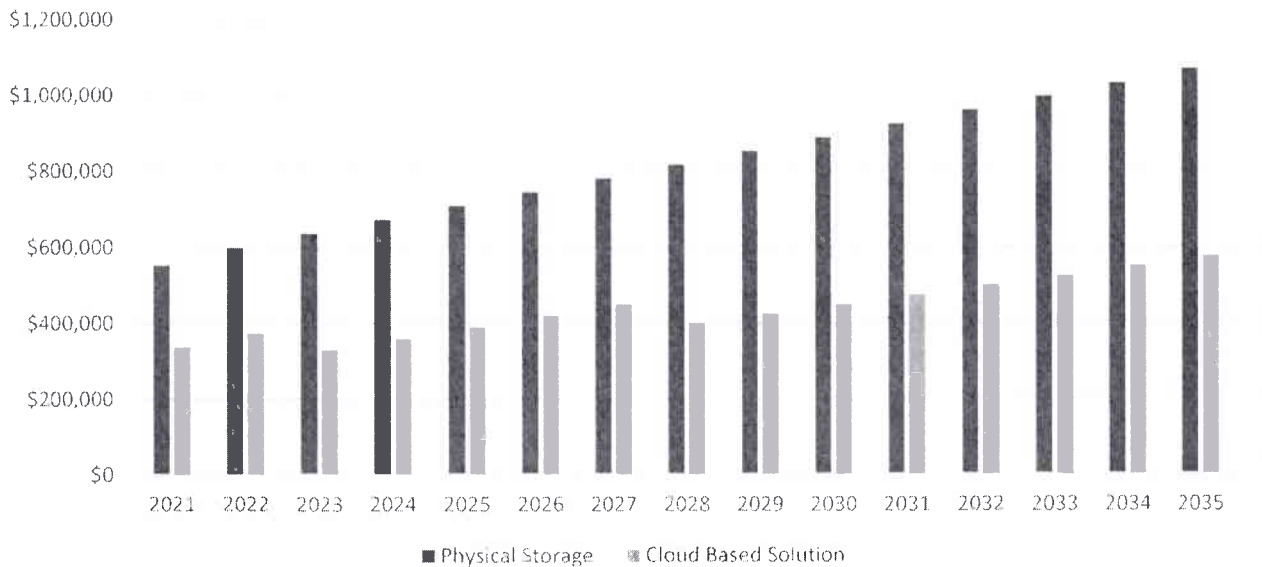## 4.2   ACR – Trusted System Retention Management

With the guidance of RMAP, the ACR – Trusted System's infrastructure has been developed to meet the mandated retention policies. Credentials are provided to assigned users who can upload and designate the specified Departmental Records Retention Schedules for each document type. Documents are kept in the AWS S3 repository until the destruction schedule is executed. The ACR - Trusted System design meets the document destruction guidelines, requiring both department designee and RMAP to review and approve the list of documents 30 days prior to the deletion date. Documents with a Legal Hold can be frozen in the process until RMAP unlocks the files, moving them back into the retention workflow.

5.0   COST BENEFIT ANALYSIS

Our analysis revealed that the departments were experiencing an unprecedented accumulation of paper-based records and files. Cost for departments to manage and maintain records in storage facilities was dramatically increasing due to the large volume of records. Our analysis revealed variable cost factors associated with box storage (e.g., mileage, new boxes, destruction, and data entry fees) which were associated to 31% of the total cost. Our analysis concluded that the total physical storage space required to house paper native documents will double in the next 15 years, resulting in increasing our budget two-fold for physical storage facilities.

By eliminating these variable factors, we identified a 44% savings when using cloud-based storage solutions over physical storage facilities. Utilizing the AWS S3 platform can also provide the flexibility to move records to long term storage (S3 - Deep Glacier) for additional cost savings. In a 15-year span, cloud-based repository solutions can save the county in the upwards of $5 Million.

Cost Analysis

Bar chart titled "Cost Analysis" comparing Physical Storage and Cloud Based Solution costs from 2021 to 2035. Y-axis ranges from $0 to $1,200,000.

Legend: ■ Physical Storage   ■ Cloud Based Solution

6.0   NEXT STEPS

The ACR Trusted System Team continues to collaborate on project developments that will enhance our customers' experience. Several available features from AWS' modernized data archiving solutions will be incorporated into the design as the ACR – Trusted System expands its reach. The next phase of processing additional documents into the Trusted System is currently in progress.

6.1   Phase 2 – Business Personal property

Phase 2 of the ACR Trusted System will ingest almost a million pages of Audit / Appeal files from the Business Personal Property section. Documents are being scanned into digital images and will be processed into the Trusted System cloud-based repository which will house the official records. Phase 2 is scheduled for completion in the 4th quarter of 2022.

6.2   Enhancements

Blockchain technology is an added security layer that will be explored. A blockchain is a decentralized, distributed, and public digital ledger that is used to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the consensus of the network. Using this technology, requires a team of technical architects and developers to build the infrastructure. Blockchain technology allows participants to confirm transactions without a need for a central clearing authority by using hashes for each record that makes it more secured and controlled. A hash is a function that meets the encrypted demands needed to solve for a blockchain computation.

7.0   CONCLUSION

The ACR Trusted System can manage and maintain official records utilizing a cloud-based repository while complying with regulatory requirements. It has been designed to provide long term retention, compliance, and digital preservation. The technology improvements that have been implemented has also provided the infrastructure for future growth.