

Internal Audit Department

O R A N G E C O U N T Y
6th Largest County in the USA

AUDIT OF IRON MOUNTAIN OFF-SITE DATA STORAGE SERVICES

As of October 1, 2014

At the direction of the Board of Supervisors, the Internal Audit Department conducted an audit of off-site electronic data storage and retrieval services related to the Interim Regional Cooperative Agreement with Iron Mountain Information Management to determine if adequate physical controls and processes are in place.

Our audit included visiting the Iron Mountain facility housing the County's electronic data storage containers, testing a sample of data storage containers, reviewing external audit reports, and reviewing a survey of County user departments conducted by CEO/Information Technology.

Our audit found Iron Mountain has adequate physical controls and processes in place to safeguard, access and retrieve the County's electronic data storage backup tapes. Based on our site visit and limited testing, we determined that the County's off-site electronic data records stored at the Iron Mountain facility are adequately maintained and protected. We did not identify any audit findings or recommendations.

AUDIT NO: 1454
REPORT DATE: OCTOBER 23, 2014

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RISK BASED AUDITING

Member of  GAO & IIA Peer Review Compliant – 2001, 2004, 2007, 2010, 2013
American Institute of Certified Public Accountants Award to Dr. Peter Hughes as 2010 Outstanding CPA of the Year for Local Government

GRC (Government, Risk & Compliance) Group 2010 Award to IAD as MVP in Risk Management



2009 Association of Certified Fraud Examiners' Hubbard Award to Dr. Peter Hughes for the Most Outstanding Article of the Year – Ethics Pays



2008 Association of Local Government Auditors' Bronze Website Award



2005 Institute of Internal Auditors' Award to IAD for Recognition of Commitment to Professional Excellence, Quality, and Outreach

OC ORANGE COUNTY BOARD OF SUPERVISORS' Internal Audit Department

GAO & IIA Peer Review Compliant - 2001, 2004, 2007, 2010, 2013

Providing Facts and Perspectives Countywide

RISK BASED AUDITING

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Transmittal Letter



Audit No. 1454 **October 23, 2014**

TO: Members, Board of Supervisors

FROM: Dr. Peter Hughes, CPA, Director
Internal Audit Department

SUBJECT: Audit of Iron Mountain Off-Site
Data Storage Services

We have completed an Audit of Iron Mountain Off-Site Data Storage Services as of October 1, 2014. We performed this audit at the direction of the Board of Supervisors (BOS). At the June 17, 2014 meeting, it was directed that the Internal Audit Department or the Office of the Performance Auditor conduct an analysis of County records stored with Iron Mountain to determine their condition, where they are located, and if they are being maintained in accordance with the Interim Regional Cooperative Agreement with Iron Mountain for off-site data storage and retrieval services. The Internal Audit Department conducted this audit with the approval of the Auditor-Controller, whom has audit provisions in the Interim Regional Cooperative Agreement. Our final report is attached for your information.

Each month I submit an [Audit Status Report](#) to the BOS where I detail any material and significant audit issues released in reports during the prior month and the implementation status of audit recommendations as disclosed by our Follow-Up Audits. Accordingly, the results of this audit will be included in a future status report to the BOS.

Please feel free to call me should you wish to discuss any aspect of our audit report or recommendations. Additionally, we will request the Auditor-Controller to complete a [Customer Survey](#) of Audit Services. You will receive the survey shortly after the distribution of our final report.

ATTACHMENTS

Other recipients of this report are listed on the [OC Internal Auditor's Report](#) on page 4.

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Off-Site Data Storage Services
Audit No. 1454*

As of October 1, 2014

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Audit No. 1454

October 23, 2014

TO: Members, Board of Supervisors

FROM: Dr. Peter Hughes, CPA, Director
Internal Audit Department

SUBJECT: Audit of Iron Mountain Off-Site Data Storage Services

Audit Highlight

At the direction of the Board of Supervisors, Internal Audit conducted an audit of processes and controls over Iron Mountain's off-site electronic data storage records and retrieval services related to the Interim Regional Cooperative Agreement with Iron Mountain.

IAD visited the Iron Mountain facility housing the County's electronic data storage containers, tested a sample of data storage containers, reviewed external audit reports, and reviewed a survey by conducted by CEO/IT of department satisfaction with Iron Mountain's services.

Our audit found there are adequate controls and processes in place to safeguard and maintain the County's off-site electronic data storage records. We did **not** identify any audit findings.

OBJECTIVES

At the June 17, 2014, Board of Supervisors (BOS) meeting, a Board Directive was made for either Internal Audit Department or the Office of the Performance Audit Director to perform an analysis of the storage records related to the Interim Regional Cooperative Agreement with Iron Mountain for off-site data storage and retrieval services. Specifically, the BOS Directive "*Directed Internal Audit or the Office of the Performance Audit Director to conduct an analysis of our (County) records stored with Iron Mountain to determine their condition, where they are located and are they being maintained.*"

The Interim Regional Cooperative Agreement states in Attachment B, Clause 21: Audits/Inspections – "*Contractor agrees to permit the County's Auditor-Controller or the Auditor-Controller authorized representative...access during normal working hours to look at all books, accounts, records, reports, files...for the purpose of auditing or inspecting any aspect of performance of the contract.*" On August 31, 2014, the Auditor-Controller designated the Internal Audit Department (IAD) as its authorized representative to conduct the audit. Our audit was conducted in conformance with the Professional Practice of Internal Auditing prescribed by the Institute of Internal Auditors.

Our objective was to determine whether the County's data storage records housed off-site by Iron Mountain were adequately protected and could be retrieved in a timely manner. To accomplish this, we performed the following:

1. **Site Visit:** IAD visited the Iron Mountain storage facility in Foothill Ranch to observe physical controls over County's electronic data storage containers as well as document controls over containers while in transit.
2. **Inquiry and Testing:** IAD inquired of SAIC staff responsible for sending and receiving the data storage containers of any issues with Iron Mountain's services. IAD obtained an understanding of controls and processes for off-site storage and retrieval services from Iron Mountain management. IAD selected a sample of data storage containers to verify they were adequately protected and could be retrieved in a timely manner.
3. **External Audit Reports:** IAD requested the most recent external audit of Iron Mountain's services to identify any control deficiencies.
4. **CEO/IT Survey of County User Departments:** IAD obtained a survey performed by CEO/IT regarding Iron Mountain's performance under the existing contract to identify any service issues.



RESULTS

■ Objective #1 – Site Visit:

We visited the Iron Mountain storage facility in Foothill Ranch to observe physical controls over County's electronic data storage containers as well as document controls over containers while in transit. Based on our site visit, we determined that the County's electronic data storage containers were adequately safeguarded at the facility and while in transit using Iron Mountain's vans.

We have no findings or recommendations under this objective.

■ Objective #2 – Inquiry and Testing:

We selected a sample of data storage containers to verify they were adequately protected at the Iron Mountain facility and could be retrieved in a timely manner. We also inquired of SAIC's staff at the County Data Center responsible for sending and receiving the data storage containers from departments/agencies under the Interim Regional Cooperative Agreement of any issues with Iron Mountain's services, and none were noted.

We have no findings or recommendations under this objective.

■ Objective #3 – External Audit Report:

We requested and reviewed the most recent external audit of Iron Mountain's services and obtained a Service Organization Control (SOC) 3 Report having an unqualified opinion and did not identify any control deficiencies. The SOC 3 Report is conducted by an external CPA firm and provides an opinion about controls at Iron Mountain relevant to security, availability, processing integrity, confidentiality and privacy.

We have no findings or recommendations under this objective.

■ Objective #4 – CEO/IT Survey:

We obtained a survey performed by CEO/IT of departments/agencies under the Interim Regional Cooperative Agreement regarding Iron Mountain's performance under the existing contract to identify any service issues. The departments/agencies under this agreement are: **Assessor, Auditor-Controller, CEO/IT, District Attorney, Health Care Agency, OC Public Works, OC Waste & Recycling, Registrar of Voters, Sheriff-Coroner, Social Services Agency, and Treasurer-Tax Collector.** Some minor concerns were noted in the survey, which were being addressed by the vendor. See pages 6-7 of this report for additional detail.

We have no findings or recommendations under this objective.

CONCLUSION

Our audit found Iron Mountain has adequate physical controls and processes in place to safeguard, access and retrieve the County's off-site backup data storage tapes. Based on our site visit and limited testing, we determined that the County's off-site electronic data records stored at the Iron Mountain facility are adequately maintained and protected. We did not identify any findings or recommendations.



BACKGROUND

At the June 17, 2014, Board of Supervisors meeting, Internal Audit Department or the Office of the Performance Auditor were directed to perform an analysis of the storage records related to the Interim Regional Cooperative Agreement with Iron Mountain. On August 31, 2014, the Auditor-Controller designated the Internal Audit Department as its authorized representative to conduct the audit. On September 26, 2014, IAD met with CEO/IT to document the electronic data storage and retrieval process. On October 1, 2014, IAD visited the Iron Mountain facility to supplement its understanding of the electronic data storage and retrieval process and noted the following:

Data Storage Process:

- Every Monday, Iron Mountain arrives at the OC Data Center to drop-off and accept data storage containers.
- Each storage container is labelled and bar coded (account number and unique number).
- Each data storage container is locked with a pad lock; keys are maintained by the County and Iron Mountain.
- Iron Mountain uses Secure Sync (customer) and Secure Base (Iron Mountain) to manage its data storage inventory.
- CEO/IT enters container number, contents, and return date into Secure Sync for containers to be delivered to the Iron Mountain facility.
- At the County data center, Iron Mountain driver scans container(s) updating location of container in Secure Sync to in-transit to storage facility.
- Iron Mountain driver scans container(s) as they are being placed in the transport van.
- Iron Mountain transports container(s) to storage facility.
- At the storage facility, the driver scans containers in the shipping/receiving area to update location.
- Iron Mountain librarian scans containers prior to placement in storage vault. The upload process performs a reconciliation to ensure all scheduled containers were received. Any discrepancies are emailed to the customer.
- For "Open Media," the librarian opens the container and scans each item (labeled with account number and unique media number).
- Iron Mountain librarian places the containers in the storage racks. "Open Media" individual items are placed in racks built to hold the individual data storage media.

Data Retrieval Process:

- Iron Mountain stages containers to be delivered to County based on requests entered in Secure Sync or predetermined schedule as captured in Secure Sync.
- For "Open Media," the individual items are scanned and placed in a data storage container.
- Iron Mountain librarian pulls containers from storage vault and places containers on appropriate dolly for transport.
- Iron Mountain librarian scans container to update their location.
- Iron Mountain driver scans container as containers are loaded into van.
- Iron Mountain driver scans container at the County to update their location as delivered.
- CEO/IT generates a list of containers to be received and compares with containers received. Any issues are resolved by Iron Mountain.

Department/Agency Responsibilities:

- Auditor-Controller and Assessor have access to Secure Sync and prepare their own containers which are transported by the agency to the OC Data Center.
- Each department/agency is responsible for maintaining its own list of items in the Iron Mountain storage container.
- Each department/agency is responsible for establishing transport of storage containers. Some are picked up directly by Iron Mountain, others transport (either own staff or SAIC) to the OC Data Center.



SCOPE

Our scope was to evaluate controls over the County's electronic data storage with Iron Mountain as of October 1, 2014, to address the Board of Supervisors' directive to determine condition of the data storage devices, how/where they are located and if they are maintained. Our audit included the performance of the following:

1. **Site Visit:** We visited the Iron Mountain storage facility in Foothill Ranch to observe physical controls over County's electronic data storage containers as well as document controls over containers while in transit.
2. **Inquiry and Testing:** We selected a sample (Auditor-Controller, Treasurer-Tax Collector and CEO/IT) of data storage containers at the Foothill Ranch facility as of October 1, 2014, to verify they were adequately protected and could be retrieved in a timely manner. We also inquired of SAIC's staff at the County Data Center responsible for sending and receiving the data storage containers of any issues with Iron Mountain's services.
3. **External Audit Report:** We requested the most recent external audit of Iron Mountain's services and obtained a Service Organization Control (SOC) 3 report having an unqualified opinion.
4. **CEO/IT Survey:** We obtained a survey performed by CEO/IT regarding Iron Mountain's performance under the existing contract to identify any service issues.

To accomplish the above, we worked with **Auditor-Controller/Information Technology** and **CEO/Information Technology**.

SCOPE EXCLUSION

This audit covered only the data storage backup tapes maintained under this agreement. It did not include Iron Mountain's document management process where paper and physical documents are stored for the County. Paper and physical documents are not stored at this facility and are not part of the Interim Regional Cooperative Agreement with Iron Mountain for off-site data storage and retrieval services.

Acknowledgment

We appreciate the courtesy extended to us by the Auditor-Controller and CEO/IT personnel during our audit. If we can be of further assistance, please contact me directly at 834-5475 or Michael Goodwin, Assistant Director, at 834-6066.

Attachments

Distribution Pursuant to Audit Oversight Committee Procedure No. 1:

Members, Audit Oversight Committee
Jan Grimes, Auditor-Controller
Michael Giancola, County Executive Officer
Mark Denny, Chief Operating Officer
Frank Kim, Chief Financial Officer
Christina Koslosky, Interim CIO
Denise Steckler, Chief Deputy Auditor-Controller
Phil Daigneau, Director, Information Technology, Auditor-Controller
Foreperson, Grand Jury
Susan Novak, Clerk of the Board of Supervisors
Macias Gini & O'Connell LLP, County External Auditor



1. Site Visit (Objective #1)

On October 1, 2014, IAD visited the Iron Mountain data storage facility located in Foothill Ranch (houses electronic data storage devices only for County departments/agencies including CEO/IT, Auditor-Controller and Treasurer-Tax Collector) and observed the following controls to protect the data storage containers:

- Storage facility is located above the foothills in Foothill Ranch, CA in a stand-alone one story building.
- Access to the building is restricted to Iron Mountain employees. Visitors may access the building by appointment only with 24-hour notification. Visitors are required to sign the visitor log and provide picture identification.
- Building has three entry points: shipping/receiving area, main entrance, and emergency entrance. Each entry point is controlled via card reader/pin pad device. In addition, the main and emergency entrances are covered by a video recording system. Recordings are maintained on-site for 90 days and indefinitely by the contractor.
- The shipping/receiving area is restricted by two fences controlled via card reader/pin pad device. The fences are monitored by a video recording system. Recordings are maintained on-site for 90 days and indefinitely by the contractor.
- Storage area is restricted to Iron Mountain staff via card reader/pin pad device. Storage area is separate from office space and shipping/receiving area.
- Storage area has redundant air conditioning system.
- Automated fire extinguishing system (halon and water) is installed.
- Data storage containers are stored in racks that are secured to the floor. Storage containers are labeled with the customer number and unique identifier only. Customer containers are not segregated and instead are stored throughout the storage area based on container size.
- Storage containers are water resistant and protected by a padlock. Keys are retained by customers and maintained on site in a separate area of the building. Access to the keys is limited to the storage librarian.
- Building is supported by a diesel generator.

In addition, IAD was informed that the vans used to transport data storage containers have various security measures including:

- Vans are monitored by GPS.
- Vans require two keys (one key to disarm alarm and one key opens doors and starts vehicle) to operate the vehicle.
- Vans are segregated into driving compartment and storage compartment.
- Vans are alarmed to notify drivers when the doors are not closed and the driver walks away.
- Drivers are required to stay with the vehicle if it becomes disabled until a substitute vehicle arrives to transport the storage containers.
- Drivers are bonded and a background check is performed during the hiring process.

Conclusion:

Based on our limited observation of controls at the data storage facility and transportation vans, we determined that the data storage containers are adequately safeguarded by Iron Mountain. **No findings were noted under this objective.**



2. Inquiry and Testing (Objective #2)

We obtained a listing of data storage containers from Auditor-Controller (also responsible for Treasurer-Tax Collector data storage) and CEO/IT (who maintains listings for most departments/agencies under the Interim Regional Cooperative Agreement) and selected a sample of County data storage containers currently housed at the Foothill Ranch facility to verify the containers were properly safeguarded and could be retrieved in a timely manner. We conducted a walkthrough of the data storage and retrieval processes with an explanation of the processes and controls by Iron Mountain management. IAD was able to locate the data storage containers at the Foothill Ranch facility in a timely manner and observed the containers were adequately secured (see testing in Objective #1). In addition, IAD inquired of CEO/IT and SAIC staff involved with a recent project involving retrieval of backup tapes and was informed there were no issues with the retrieval of backup tapes.

Conclusion:

Based on our limited testing, we determined that the data storage containers were adequately safeguarded and could be retrieved in a timely manner. **No findings were noted under this objective.**

3. External Audit Reports (Objective #3)

We requested the most recent external audit report for Iron Mountain data storage services and reviewed its contents. We obtained a Service Organization Control (SOC) 3 Report prepared by Ernst & Young dated April 25, 2014. We noted the report stated:

Iron Mountain Information Management LLC, during the period January 1, 2013 through December 31, 2013, maintained effective controls over its Information Technology Infrastructure Environment Services System to provide reasonable assurance that:

- *The IT Environment was protected against unauthorized access (both physical and logical);*
- *The IT Environment was available for operation and use as committed and agreed; and*
- *Information from the IT Environment designated as confidential was protected as committed and agreed based on the criteria for security, availability, and confidentiality in the American Institute of Certified Public Accountants' TSP Section 100a, Trust Services Principles, Criteria, and Illustrations for Security, Availability, Processing Integrity, Confidentiality, and Privacy.*

Conclusion:

Based on our review of Iron Mountain's SOC 3 report, we determined there were no control issues relevant to security, availability, processing integrity, confidentiality, or privacy. **No findings were noted under this objective.**

4. CEO/IT Survey (Objective #4)

Based on the Board of Supervisors' discussion and the directive at the June 17, 2014 meeting, CEO/IT conducted an informal survey which was concluded on August 18th. Below are the results from the questionnaire:

Detailed Results



Question	SSA	DA	HCA	RoV	OCWR	CEO/IT	A-C	ASSESS	OCSA	OCPW
1. Has your Agency experienced any issues with the timely pickup and delivery of printed documents, microfiche, electronic media from Iron Mountain?	NO	NO	NO	YES	NO	NO	NO	YES	NO	Minimal Issues
2. Was your Agency's printed documents, microfiche, or electronic media ever damaged or lost while under the management of Iron Mountain?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. In your experience, was Iron Mountain ever unprofessional in the handling (Storage or transport) or your printed documents, microfiche, or electronic media?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. On a scale of 1-5, with 5 being extremely satisfied, please rate your overall satisfaction with Iron Mountain's customer service to your Agency. If 3 or less, please provide specifics.	5	5	4	3	4	5	4	4	4	4
5. Were all cost or fee issues thoroughly explained?	YES	YES	No Response	YES	No Response	No Response				

Respondents reported their overall experience as being "satisfied to very satisfied" with Iron Mountain's services. CEO/IT inquired of departments/agencies and noted only three (3) departments/agencies with the following concerns.

- Registrar of Voters:** Reported that the department experienced issues with Iron Mountain's timely delivery and pickups. Since ROV has started utilizing Iron Mountain's online system, they reported the situation has improved.
- Health Care Agency:** Indicated that the Agency was not satisfied with Iron Mountain's billing methodology in regards to charging for multiple pickups although they were for the same Agency. Internal Audit did not include contractor billings in the scope of this audit.
- Assessor:** At times tapes were not returned timely. Transfer lists are now being created before pickups but it will take a year (from May 2014) before the Department will know if this remedies the problem since the tapes are held by the vendor for one year before return. In addition, the vendor picks up/delivers once a month and was late one time, by one day.

Conclusion:

Based on our review of survey results, we determined that Iron Mountain is providing adequate services under the contract. **No findings were noted under this objective.**