

OFFICE OF AUDITS & ADVISORY SERVICES



SOFTWARE ASSET MANAGEMENT & DOMAIN NAMES MANAGEMENT SERVICES AUDIT

FINAL REPORT

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County of San Diego

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JUAN R. PEREZ
CHIEF OF AUDITS

February 10, 2015

TO: Mikel D. Haas, Chief Information Officer
County Technology Office

FROM: Juan R. Perez
Chief of Audits

FINAL REPORT: SOFTWARE ASSET MANAGEMENT & DOMAIN NAMES MANAGEMENT SERVICES

Enclosed is our report on Software Asset Management & Domain Names Management Services. We have reviewed your response to our recommendations and have attached them to the audit report.

The actions taken and/or planned, in general, are responsive to the recommendations in the report. As required under Board of Supervisors Policy B-44, we respectfully request that you provide quarterly status reports on the implementation progress of the recommendations. The Office of Audits & Advisory Services will contact you or your designee near the end of each quarter to request your response.

Also attached is an example of the quarterly report that is required until all actions have been implemented. To obtain an electronic copy of this template, please contact Franco Lopez at (858) 505-6436.

If you have any questions, please contact me at (858) 495-5661.

JUAN R. PEREZ
Chief of Audits

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Enclosure

c: Tracy M. Sandoval, Deputy Chief Administrative Officer/Auditor and Controller
Damien Quinn, Group Finance Director, Finance and General Government Group
Andrew McDonald, Group IT Manager, Finance and General Government Group

INTRODUCTION

Audit Objective The Office of Audits & Advisory Services (OAAS) completed an audit of the Hewlett-Packard Enterprise Services' (HP) Software Asset Management (SAM) and Domain Names Management Services (DNMS). The objective of the audit was to evaluate the adequacy of controls over the County of San Diego's (County) SAM and DNMS.

Background The County's Information Technology and Telecommunication Service Agreement (Agreement) assigns responsibility for the County's SAM and DNMS processes to HP.¹ Specifically:

- SAM – HP will manage the acquisition, management, and support of all agreements and licenses required to provide the services.
- DNMS – HP will manage all County domain names in a centralized manner including actively monitoring current subscriptions, renewing subscriptions and paying appropriate fees to domain name vendors.

Before HP can assume these responsibilities, department owned software and domains under agreement must be formally assigned to HP. However, several County departments have retained responsibility for select software and domains due to the inability to assign responsibility or the decision to not transfer services to HP.² Therefore, overall County administration of SAM and DNMS requires effective management by both HP and County departments.

Effective SAM and DNMS ensure that an organization manages and optimizes the purchase, deployment, maintenance, utilization, and disposal of software applications and domain names. SAM processes ensure inventories track license expiration and compliance requirements in order to manage the financial and legal risks associated with software ownership and expiration. DNMS includes the activities required to successfully manage and maintain all County domain names.

Audit Scope & Limitations The scope of the audit focused on evaluating the adequacy of controls that ensure the effective administration of the County's SAM and DNMS. The time period of the review included administration activity from October 2013 to July 2014.

This audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing prescribed by the Institute of Internal Auditors as required by California Government Code, Section 1236.

¹ IT Agreement, Schedule 4.3 – Operational Services

² Departments may not be able to assign software or domains to HP due to, but no limited to, the following reasons: vendors not agreeing to the arrangement, HP liability concerns, and department security concerns.

OAAS also based their assessment on the International Organization for Standardization (ISO) 19770-1:2006 Information Technology – Software Asset Management.

Methodology

OAAS performed the audit using the following methods:

- Reviewed the Agreement as well as relevant business process documents.
- Interviewed County and HP stakeholders to understand the SAM and DNMS administration. Documented controls and assessed risks of SAM and DNMS administration process.
- Selected a judgmental sample of four departments for DNMS testing, including: Assessor/Recorder/County Clerk (ARCC), District Attorney (DA), Flood Control District (FCD), and Sheriff's Department.
- Selected a judgmental sample of five departments for SAM testing, including: Aging & Independence Service (AIS), Assessor/Recorder/County Clerk (ARCC), Air Pollution Control District (APCD), Department of Environment Health (DEH), and Department of Public Works (DPW).
- Tested controls over SAM and DNMS and verified whether:
 - County and HP stakeholders understood their responsibility for administration. This included ensuring there is a structured approach to creating, reviewing, approving, issuing, and controlling policies/processes/procedures and related documentation.
 - The County and HP administer SAM and DNMS effectively including service requests, maintenance, and inventory.
 - Inventory processes maintain records for software and provides data management functionality which ensures integrity.
 - Verification and compliance processes detect and manage all exceptions to policies, processes, and procedures including license use rights.

AUDIT RESULTS

Summary

Within the scope of the audit, HP controls that ensure the effectiveness of the County's SAM and DNMS administration are generally sufficient. However, specific issues were identified with the lack of effective SAM within County departments that manage software.

To strengthen current controls and improve the effectiveness of the County's SAM, OAAS has the following finding and recommendation.

Finding I:**Improvement Needed in the County's Software Asset Management**

A review of County departments' SAM found varying degrees of administration and a less structured approach than that of HP. Of the five departments sampled for testing, only one department (APCD) demonstrated an understanding of SAM by maintaining an inventory of all administered software and formalized guidance outlining employee SAM duties. The other four departments:

- Could not provide or readily compile a complete listing of software licenses their department was responsible for managing (i.e., not managed by HP).
- Could not provide evidence that all software licenses administered by their department were in conformance with related software agreements.
- Did not have defined policies or procedures related to SAM.

Due to the absence of software agreement inventories, OAAS conducted further research to identify software agreements that each department was responsible for maintaining. Ten agreements, two from each sampled department, were judgmentally selected for testing, which identified the following:

- The license rights allowed in one software agreement were over utilized.
- Terms outlined in one software agreement were not clear to OAAS regarding whether the use of concurrent license rights was appropriate. Within the agreement, a product description outlined that only 100 users may be granted license rights, which is less than the actual number of users (134) in the system. Additionally, the software system allows the County to assign up to 500 users but only allows 100 users to access the software at any one time. County Counsel confirmed licenses were being appropriately utilized and indicated that the addition of clarifying language in a future renewal/amendment would curtail potential future confusion on appropriate use.

County-wide standards and guidance have not been established to ensure departments understand their responsibility for a structured and consistent approach to SAM. Whereas HP's SAM is centrally administered, County departments' SAM is decentralized by contract and generally the responsibility of a Contracting Officers Representative. This has resulted in disparate and inconsistent SAM within departments.

ISO/IEC 19779-1 outlines there should be a structured approach to creating, reviewing, approving, issuing, and controlling policies/processes/procedures and related documentation relevant to SAM. These should outline how to properly administer inventories, licenses, and service levels. Board of Supervisor Policy (A-111) and the

Administrative Manual (0400-01) also outline that County information system application be consistent with a County-wide approach in planning, acquiring, implementing, integrating, and managing such information systems. Software must be installed, used, and maintained in a manner that is consistent with the County's business practices.

Without proper administration and oversight, software assets may be misused, misallocated, and/or exceed allowable installation rights. This could result in financial loss for the County in the form of lost software assets or vendor fines.

Recommendation: The CTO should work with the IT Governance Structure to establish standards and guidance that ensure a structured approach to effective SAM for Countywide adoption. This should, at a minimum, include guidance outlining the:

1. County department responsibility over SAM for non-HP maintained software agreements.
2. County's preference that software agreements be administered by HP where possible.
3. Need for departments to compile and maintain an inventory of non-HP managed software assets, inclusive of user rights and usage.
4. Need for ensuring software license rights are actively maintained and not over-utilized.
5. Need for appropriate and clear software license agreement language to minimize ambiguity. This includes ensuring software agreements outlining the:
 - a. Term, type, and number of license rights
 - b. Appropriate use and limitations of license rights regarding transferability and concurrent use

Office of Audits & Advisory Services

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DEPARTMENT'S RESPONSE



County of San Diego

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01/30/2015
Ref: A14-031

RECEIVED

TO: Juan R. Perez
Chief of Audits

FEB 09 2015

FROM: Mikel Haas, CIO
County Technology Office

OFFICE OF AUDITS &
ADVISORY SERVICES

DEPARTMENT RESPONSE TO AUDIT RECOMMENDATIONS: SOFTWARE ASSET MANAGEMENT & DOMAIN NAMES MANAGEMENT SERVICES AUDIT

Finding I: Improvement Needed in the County's Software Asset Management (SAM)

OAAS Recommendation: The CTO should work with the IT Governance Structure to establish standards and guidance that ensure a structured approach to effective SAM for Countywide adoption.

Action Plan: The CTO agrees with OAAS recommendation and, in accordance with general County direction, will actively engage the departments to ensure that all appropriate licenses are maintained and managed by the ITO. For those that, for some logical reason cannot be managed by the ITO, in coordination with the Group Information Technology Managers (GITMs), the CTO will develop and publish guidelines and standards for the SAM of non-HP managed software assets / licenses. The guidelines will outline:

1. SAM department responsibilities, including:
 - a. Justification/reason why the license cannot be managed by the ITO and must be managed by the Department.
 - b. Ensuring that non-HP managed licenses are actively maintained and not over-utilized
 - c. Ensuring that non-HP managed software agreements clearly identify the Term, Type and Number of Licenses
 - d. Expectations with regard to County's preference that software agreements be administered by HP where possible
2. Standards for a software asset / license inventory listing

Planned Completion Date: June 30, 2015

Contact Information for Implementation: Mavette Sadile (619) 531-4505

If you have any questions, please contact me at 619-685-2397.

Regards,

Mikel Haas
Chief Information Officer

CC: Susan Green