

# COUNTY AUDIT DEPARTMENT

**REPORT # 383**

*An Audit of:*

**CLERK'S SOFTWARE & APPLICATION LICENSING  
CONTROLS**

**JULY 6, 2020**



*Pat Frank* INTEGRITY. TRANSPARENCY. ACCOUNTABILITY.

CLERK OF COURT & COMPTROLLER • HILLSBOROUGH COUNTY, FLORIDA

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July 6, 2020

Dear Pat Frank, Clerk of Court and Comptroller:

The Audit Team performed an audit of the Clerk's Software & Application Licensing Controls (Audit Report # 383, dated July 6, 2020). Responses to the Audit Team's recommendations were received from the Chief Information Officer and have been included in the Report after the audit comment and recommendation.

The purpose of this Report is to furnish management independent, objective analysis, recommendations, counsel, and information concerning the activities reviewed. It is not an appraisal or rating of management.

Although the Audit Team exercised due professional care in the performance of this audit, this should not be construed to mean that unreported noncompliance or irregularities do not exist. The deterrence of fraud and/or employee abuse is the responsibility of management. Audit procedures alone, even when carried out with professional care, do not guarantee that fraud or abuse will be detected.

The Audit Team appreciates the cooperation and professional courtesies extended to the auditors by the Directors and personnel of the Information Technology department during this audit.

Sincerely,

Heidi Pinner, CIA, CISA, CFE, CRMA  
Senior Director of County Audit

CC: Dan Klein, Chief Executive Officer, Clerk of Court and Comptroller  
Michelle Decker, Chief Information Officer  
Idania Alfonso, Senior IT Director  
Chris Tluczek, Senior IT Director

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## EXECUTIVE SUMMARY

### BACKGROUND INFORMATION

The Clerk's Office uses many types of computer software and applications to accomplish its mission and objectives. Most software is governed by a legal instrument called a software license. Software licenses are agreements between suppliers and customers that provide guidelines for the use and distribution of the software. Effective software license management allows the Clerk to maintain an accurate software inventory to improve accountability, security, and compliance.

### OBJECTIVE

The objective of the audit was to determine whether or not the Clerk Information Technology Department has adequate controls in place to ensure that software and applications are appropriately licensed and utilized.

### SCOPE

The audit was conducted in conformance with the *Generally Accepted Government Auditing Standards* and the *International Standards for the Professional Practice of Internal Auditing*. These Standards require that County Audit plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the audit comments and conclusions based on the audit objectives. County Audit believes that the evidence obtained provides this reasonable basis.

The audit scope included all Clerk's software programs and applications licenses paid by the Clerk and the related control environment as of January, 2020.

### OVERALL EVALUATION

#### Process strengths:

- Management approval is obtained and maintained prior to installing software/applications.
- IT departments have a process in place to record, monitor and assign application licenses.
- Clerk software and applications (perpetual and enterprise-wide) are properly licensed and utilized.

#### Control improvement opportunities:

- No formal policy exists for the management of software and application licenses.
- The principle of least privilege is not always applied when assigning local administrative rights.
- No formal policy exists for the assessment of outdated system and application versions.

**OPINION****Control Maturity Levels**

The overall control environment relative to the software/application licensing process is at a formal (defined) maturity level. This means that controls are in place and properly carried out. This level of control maturity indicates overall control awareness, where control gaps are detected and remediated in a timely manner. Improvement opportunities were identified regarding the outline of formal written policies for the management of software/application licenses and for the monitoring of system versions. In addition, there is an opportunity to implement the principle of least privilege when assigning local administrative permissions. Addressing these opportunities will enhance the overall control structure and provide increased consistency and assurance.

The exit conference was held on June 1, 2020.

**AUDITED BY**

Heidi Pinner, CIA, CISA, CFE, CRMA, Senior Director, County Audit  
Ben Everett, CPA, CIA, CFE, Audit Manager  
Raul Cardona, CIA, CISA, CSX-A, Senior Internal Auditor

## AUDIT COMMENT & RECOMMENDATIONS

### AUDIT COMMENT

#### **Opportunities exist to enhance the controls surrounding the software and application licensing process.**

The objective was to determine whether or not there are controls in place to ensure that software and applications licenses are appropriately recorded, maintained, approved, and utilized.

For enterprise-wide software licenses, Clerk IT runs an inventory scan of computer systems and software as part of the Clerk IT yearly system true-up and renewal process. Clerk IT then compares the current inventory results to the number of licenses purchased/renewed from the previous year to determine whether or not additional licenses must be purchased.

The Audit Team performed the following procedures:

1. Inquired about procedures established to record and monitor software licenses.
2. Selected a judgmental sample of 30 software installations to ensure management approval of each software/application was obtained prior to installation.
3. Selected a judgmental sample of 5 commonly used applications with perpetual (per device licenses) and requested process owners to provide the respective license numbers and/or proofs of purchase for each of the applications included in the sample.
4. Selected a judgmental sample of 5 enterprise-wide software/applications and obtained the last two years of supporting documentation for each of the true-up processes performed to ensure that procedures were completed on a yearly basis and that corresponding vendor payments were processed in accordance with the true-up process or contract stipulated amounts.
5. Performed testing of all the administrative user accounts (local admins) with access privileges to install software/applications on Clerk computers by comparing all 56 administrative user accounts to the Clerk Active Employee list, to review for user access appropriateness.
6. Reviewed the list from ManageEngine showing all installed applications as of January 24, 2020 to identify any system version which may be outdated and/or could represent a potential vulnerability.

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## **Testing Results**

- Formal policies and procedures are not in place for the recording and monitoring of software and application licenses.

Several areas of Clerk IT have a role in the management and monitoring of software/application licenses including IT Systems Administration and Operations, Enterprise Solutions and IT Support, Enterprise Technical Support and IT Court Technology Support. Each of these functional areas has a process in place to track and monitor the licenses. However, a formal and universal policy does not exist for these activities.

- ✓ All applicable instances had the appropriate management approvals documented and maintained.

Per current IT policy, all installations of licensed software/applications should be authorized by management and requested and maintained in a service desk ticket. For the thirty (30) applications selected, 20 had the appropriate approvals and the remaining 10 applications did not require a ServiceDesk ticket because either:

- The user inherited a computer that had the application already installed.
- The application was solely for the use of the department that procured it.
- The ticket was documented prior to the current ticketing system in place. (ManageEngine) and thus, no ticket copies were maintained from the old system.

- ✓ All perpetual software/applications licenses selected for testing had proof of purchase appropriately maintained.

Perpetual licenses are manually tracked using the ManageEngine application or a spreadsheet. Each of the license quantities matched the respective tracking mechanism. In addition, payments were processed in accordance with requisition documentation and vendor invoices.

- ✓ All enterprise-wide license renewals tested were appropriate.

Payments for the five (5) enterprise-wide systems tested were made in accordance with their respective true-up/renewal process and in agreement with the corresponding vendor invoice.

- All administrative user accounts were appropriate, however access could be further restricted to enhance controls.

All administrative user accounts had a matching name in the Clerk Active Employee List. However, all Clerk IT employees, regardless of need, are granted local admin rights upon hire. This is inconsistent with the principle of least privilege access.

➤ **The Audit Team could not accurately identify all outdated software versions.**

Due to the limited details included in the list of installed applications, the Audit Team was unable to determine whether or not outdated software versions, particularly those at the application level, were in use. However, several server versions identified as outdated have been replaced and/or decommissioned with only 5 servers outstanding to be decommissioned in April 2020.

In addition, the Audit Team noted that even though Clerk IT has a process in place to scan the network for system vulnerabilities, there's no formal policy to identify outdated system versions that may represent a potential vulnerability for Clerk IT infrastructure.

**RECOMMENDATIONS**

Management should consider:

1. Implementing a formal policy for the management of software/application licenses. This may include implementing a more centralized process where software licenses are routinely audited for compliance with the policy.
2. Ensuring that all documentation used to complete the license true-up processes, including network scanning procedures and source information to support user application counts, is recorded and maintained.
3. Performing a periodic review of the list of administrative user accounts using the principle of least privilege to ensure appropriateness of the employees with administrative access rights. This should work in conjunction with privileged access management controls to monitor privileged user activity.
4. Creating a formal policy or include an additional procedure in the Vulnerability Management Policy to monitor and identify systems with an obsolete version number or that the manufacturer no longer provides support or updates for.

***CLIENT RESPONSE:***

1. *Concur*
2. *Concur*
3. *Concur*
4. *Concur*

***CORRECTIVE ACTION PLAN:***

1. *The Clerk's IT department will establish a centralized software/application license management policy which will include a process for routine audits for compliance.*
2. *The Clerk's IT department will document a process for recording and maintaining true-up procedures. This process will include procedures for network scanning and source information to support user application counts.*
3. *The Clerk's IT department will create a process to perform a periodic review of the list of administrative user accounts using the principle of least privilege to ensure appropriateness of the employees with administrative access right.*

4. *The Clerk's IT department has licenses to scan servers and PCs to monitor and identify systems with an obsolete version number. We will further define the procedure in the Vulnerability Management Policy.*

**TARGET COMPLETION DATE:**

1. *12/31/2020*
2. *12/31/2020*
3. *12/31/2020*
4. *12/31/2020.*