

STATE OF NORTH CAROLINA

OFFICE OF THE STATE AUDITOR

BETH A. WOOD, CPA



ADMINISTRATIVE OFFICE

OF THE COURTS

INFORMATION TECHNOLOGY GENERAL CONTROLS

INFORMATION SYSTEMS AUDIT

APRIL 2017



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EXECUTIVE SUMMARY

PURPOSE

The objective of this information systems audit at the Administrative Office of the Courts (AOC) was to assess the general and business process application controls that AOC maintained as an organization providing services to the North Carolina Court System.

BACKGROUND

The North Carolina Administrative Office of the Courts (AOC) provides statewide support services for the courts, including court programs and management services, information technology (IT) services, human resources services, financial, legal, and legislative support, and purchasing services.

IT services included application development as well as hosting, network, telecommunications, desktop computing, project management services, and unified communications such as email and calendaring. These services are provided on mainframe computers, distributed computing servers, and statewide voice, data, and video networks.

KEY FINDING

- Employees granted access to multiple computer systems increased risk of fraud

KEY RECOMMENDATION

- When AOC receives a request from a Clerk of Court Office that causes a conflict, AOC should require a completed exception form before granting access, per AOC's policies and procedures
- AOC should implement a method of automatically identifying where a separation of duty conflict exists

SECURITY FINDINGS AND RECOMMENDATIONS

The results of our audit also disclosed security deficiencies considered reportable under generally accepted government auditing standards. These deficiencies are reported to AOC by separate letter in accordance with these standards. These items should be kept confidential as provided by North Carolina General Statute 132-6.1(c).

STATE OF NORTH CAROLINA
Office of the State Auditor



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AUDITOR'S TRANSMITTAL

The Honorable Chief Justice Mark Martin
Administrative Office of the Courts
P.O. Box 2448
Raleigh, NC 27602-2448

Dear Chief Justice Martin:

This report presents the results of our information technology controls audit at the Administrative Office of the Courts (AOC).

We performed the audit by authority of Article 5A of Chapter 147 of the *North Carolina General Statute 147-5A* and conducted it in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States.

The objective was to assess the general and business process application controls that AOC maintained as an organization providing services to the North Carolina Court System.

The results of our audit disclosed findings considered reportable under generally accepted government auditing standards. Findings which regard security, due to their sensitivity, were reported to AOC by separate letter in accordance with these standards and should be kept confidential as provided in *North Carolina General Statute 132-6.1(c)*.

We wish to express our appreciation to the management and staff of the Administrative Office of the Courts for the courtesy, cooperation, and assistance provided us during the audit.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Beth A. Wood'.

Beth A. Wood, CPA
State Auditor



**Beth A. Wood, CPA
State Auditor**

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Article 5A, Chapter 147 of the North Carolina General Statutes, gives the Auditor broad powers to examine all books, records, files, papers, documents, and financial affairs of every state agency and any organization that receives public funding. The Auditor also has the power to summon people to produce records and to answer questions under oath.



BACKGROUND

Administrative Office of the Courts

The North Carolina Administrative Office of the Courts (AOC) provides statewide support services for the courts, including court programs and management services, information technology (IT) services, human resources services, financial, legal, and legislative support, and purchasing services. In addition, the AOC prepares and administers the court system's budget.

AOC provides IT services to the court system through its Technical Services Division (TSD). This division is under the leadership of the AOC Chief Information Officer.

TSD's IT services included application development as well as hosting, network, telecommunications, desktop computing, project management services, and unified communications such as email and calendaring. TSD used mainframe computers, distributed computing servers, and statewide voice, data, and video networks to provide these services.

TSD maintains and supports computer hardware and software in more than 280 court offices statewide, including 400 district and superior courtrooms. TSD also maintains and operates a statewide communication network to support the Judicial Branch, including data and network operations centers in Raleigh. In addition to court users, TSD maintains and supports access to its criminal systems for over 32,000 law enforcement users statewide.



OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this audit was to assess the general and business process application controls maintained by the Administrative Office of the Courts (AOC) as an organization providing services to the North Carolina Court System. The general control objectives were: access controls, configuration management, segregation of duties, and contingency planning. The business process application control objectives were application level general controls, business process controls, and data management system controls. Examples of business processes (applications) potentially affected by AOC controls are:

- Automated Criminal / Infractions System
- Criminal Court Information System
- NCAWARE for court officials, staff and law enforcement
- payNCTicket for citizens and clerk of courts

The audit scope focused on information processing services at AOC that supported business processes that significantly impacted disclosures in its financial statements and its expenditure of federal financial assistance.

To accomplish the audit objectives, auditors gained an understanding of AOC's policies and procedures, interviewed key AOC administrators and other personnel, examined system configurations, examined system controls, reviewed appropriate technical literature, and reviewed computer-generated reports. The audit was conducted between April 2016 and November 2016.

As a basis for evaluating controls, auditors applied the guidance contained in the AOC Information Security Manual issued by AOC. The manual is based on industry best practices and follows the International Organization for Standardization Standard 27002 (ISO 27002) for information technology security framework.

Additionally, auditors applied the guidance contained in the COBIT framework issued by ISACA. COBIT is a comprehensive framework that helps enterprises achieve their objectives for the governance and management of enterprise information and technology assets.

We conducted this information systems audit in accordance with generally accepted government auditing standards (GAGAS). Those performance audit standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



FINDING, RECOMMENDATIONS, AND RESPONSE

EMPLOYEES GRANTED ACCESS TO MULTIPLE COMPUTER SYSTEMS INCREASED RISK OF FRAUD

Staff in 11 different County Clerk of Superior Court Offices (Clerk of Court Offices) had the ability to change and/or delete information in multiple computer systems. The improper segregation of duties increased the risk that errors, unauthorized transactions, and fraud could have occurred and remained undetected. The Administrative Office of the Courts (AOC) developed compensating controls and procedures to mitigate inadequate segregation of duties at Clerk of Court Offices but those controls and procedures are not always followed or enforced.

Financial Audits Identified Segregation of Duty Issues

In the 2016 financial related audits, auditors reported that 11 of 25 Clerk of Court Offices (44%) had segregation of duty issues. In total, 49 employees in the 11 Clerk of Court Offices had rights in the Financial Management System (FMS), the Criminal Court Information System (CCIS), and/or the Civil Case Processing System (VCAP) without any compensating controls.

For example, one Clerk of Court Office had eight employees with cashier rights in FMS and update access in VCAP. The employees could have potentially misappropriated funds by collecting cash from a civil payment, bypassing receipt entry into FMS, and updating VCAP to indicate all costs have been paid.

In another Clerk of Court Office, three employees had cashier rights in FMS and update access in VCAP. The employees could have potentially misappropriated funds by collecting cash from a civil payment, bypassing receipt entry into FMS, and updating VCAP to indicate all costs have been paid. Two of these employees had additional access in CCIS where they could have potentially misappropriated funds in the same manner for criminal payments.

While no instances of fraud were identified in those audits, an increased risk of undetected fraud existed because access rights and duties were not properly segregated.

Segregation of Duty Issues Increased the Risk of Fraud

Segregation of duties conflicts increased the risk that fraudulent transactions could occur and remain undetected at Clerk of Court Offices.

Under these circumstances, the 49 individuals could have intercepted cash receipts from AOC's Financial Management System (FMS) and eliminated or made changes to fines, penalties and amounts owed or paid in AOC's Criminal Court Information System (CCIS) without anyone else knowing.

Without compensating controls, there was nothing in place to mitigate the increased risk.

Access Rules and Mitigating Controls Not Enforced

AOC has a process for Clerk of Court Offices to identify when segregation of duty conflicts are necessary. In these instances, the Clerk of Court Offices are supposed to submit an Internal Control Exception (Exception) form that:

1. Identifies the employee

2. Documents the business purpose of the exception
3. Documents the internal control plan (compensating controls) they will follow for the exception

However, AOC has not always enforced its conflict of duties Exception form procedures. Of the 49 exceptions noted:

- 23 of the 49 individuals (47%) had Clerk of Court Office increased access rights requests with no Exception form
- 9 of the 49 individuals (18%) had Exception forms but the forms lacked the steps the Clerk of Court Office would take to mitigate the segregation of duty risk
- 7 of the 49 individuals (14%) were new employees where more access was granted than was requested by the Clerk of Court Office

AOC provides guidance on compensating controls through a variety of methods (seminars, documentation, etc.); however, it is AOC's stance that it is the Clerk of Court Offices' responsibility to implement the compensating control.

AOC does not have an automated method of recognizing when a separation of duty conflict exists. An automated method could match users between different systems and identify employees with update rights in more than one system.

Additionally, AOC does not monitor or verify that a Clerk of Court Office has implemented the guidance for compensating controls associated with the segregation of duty conflicts.

Segregation of Duties Required

Adequate segregation of duties is required by the *Clerk of Superior Court Financial Policies and Procedures Manual*. Per the manual, proper segregation of duties involves assigning duties and access to assets and information systems so that one employee's duties automatically provide a cross-check of the work of other employees.

RECOMMENDATIONS

- When AOC receives a request from a Clerk of Court Office that causes a conflict, AOC should require a completed Exception form before granting access, per AOC's policies and procedures
- The Exception form should be redesigned to make the identification of the compensating control required and have the Clerk of Court Office confirm those controls are in place
- AOC should implement automated monitoring controls to assist with identifying when separation of duty conflicts exists



RESPONSE FROM THE ADMINISTRATIVE OFFICE OF THE COURTS



North Carolina Administrative
Office of the Courts

PO Box 2448, Raleigh, NC 27602
T 919 890-1000 F 919 890-1915

April 17, 2017

The Honorable Beth A. Wood, State Auditor
Office of the State Auditor
2 Salisbury Street
20601 Mail Service Center
Raleigh, NC 27699-0601

Dear Ms. Wood:

The North Carolina Administrative Office of the Courts (AOC) provides support services for the Judicial Branch, including: court programs and management services; financial, legal, and legislative support services; information technology (IT) services; human resources services; training; and purchasing services.

The AOC delivers IT services to the Judicial Branch through its Technical Services Division (TSD). TSD's services include application development and hosting, local and wide area networking, telecommunications, desktop computing, quality control and testing, information security, project management, and unified communications such as email and calendaring. TSD supports and maintains mainframe computers, distributed computing servers, and statewide voice, data, and video networks to provide these services.

The scope, breadth, and reach of AOC information technology is quite vast. TSD provides computer hardware and software in more than 250 locations statewide, including 541 district and superior courtrooms in all 100 North Carolina counties. TSD also maintains and operates a statewide communication network including data and network operations centers in Raleigh with disaster recovery centers in Asheville and Research Triangle Park.

The Judicial Branch technology user community comprises approximately 6,500 staff including over 530 elected court officials and over 690 appointed officials. More than 33,000 law enforcement officers also utilize computer applications created and supported by the AOC and federal, state, and local government agencies exchange information with AOC systems on a daily basis. Likewise, many of the 10 million North Carolina citizens interact with the court system through these applications and services. The AOC utilizes industry standards and best practices and takes all reasonable efforts to safeguard Judicial Branch information assets against unauthorized disclosure, modification, damage, or loss.

(R01) EMPLOYEES GRANTED ACCESS TO MULTIPLE COMPUTER SYSTEMS INCREASED RISK OF FRAUD

OSA RECOMMENDATIONS:

- a. When AOC receives a request from a Clerk of Court Office that causes a conflict, AOC should require a completed Exception form before granting access, per AOC's policies and procedures
- b. The Exception form should be redesigned to make the identification of the compensating control required and have the Clerk of Court Office confirm those controls are in place
- c. AOC should implement automated monitoring controls to assist with identifying when separation of duty conflicts exists

AGENCY RESPONSE:

North Carolina Administrative Office of the Courts concurs with the finding and recommendations. It should be noted that internal reviews were performed by AOC Internal Audit, Financial Services, and Technology Services Division and determined that no instances nor evidence of unauthorized use or fraud were identified.

CORRECTIVE ACTION(S):

- a. When AOC receives a request from a Clerk of Superior Court that causes a conflict in system authorization, AOC shall require an Exception form to be completed by the appropriate hiring authority before granting access, per AOC's policies and procedures.

Implementation Date: Q4 FY17

Responsible: Access Administration

- b. The Exception form shall be redesigned to make the identification of the compensating control required and have the Clerk of Superior Court (or appropriate hiring authority) attest those controls are in place (This finding is not for short-term requests. These forms will be routed to Financial Services for review and approval).

Implementation Date: Q1 FY18

Responsible: Access Administration, Financial Services

- c. AOC shall implement automated monitoring controls to assist with identifying when separation of duty conflicts exists

Implementation Date: Q3 FY18

Responsible: Infrastructure & Operations Support Services

The North Carolina Administrative Office of the Courts would like to thank the NC State Auditor Beth A. Wood and her staff for their comprehensive audit of the AOC Information Technology (IT) general controls, and for the recommendations they have provided to remediate the audit findings. We would like to thank the OSA for their integrity and professionalism in performing this audit. External audits are an important component of ensuring appropriate processes and controls are in place to adequately protect Judicial Branch information assets, and they contribute to the overall effectiveness and efficiency of the AOC.

We are pleased to report that AOC is already in the process of initiating plans and activities to implement the necessary corrective action plans to remediate these findings.

Sincerely,



The Honorable Judge Marion R. Warren, Director
Administrative Office of the Courts

ORDERING INFORMATION

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This audit was conducted in 1,345 hours at an approximate cost of \$138,535.