

Internal Audit Report

**DEPARTMENT OF TECHNOLOGY
& COMMUNICATION SERVICES
COMPUTER INVENTORY AUDIT
APRIL 2015**

Office of the County Auditor





OFFICE OF THE COUNTY AUDITOR

Craig Glendenning, CPA
County Auditor

April 2015

The Honorable Members of the County Council
The Honorable Allan Kittleman, County Executive

Pursuant to Section 212 of the Howard County Charter and Council Resolution 22-1985, we have conducted an audit of the County's computer equipment inventory. The body of our report presents our findings and recommendations.

Our audit disclosed that the County had no policies or procedures to govern accountability over non-capital or sensitive equipment, including computers. We also found that the County had no uniform policy governing technology purchases and many County departments used County purchasing cards (PDQ) to make technology related purchases without Department of Technology and Communication Services (DTCS) approval. The audit also found that controls over computer equipment, including the County's inventory process, could be enhanced.

Our findings have been reviewed with the Chief Administrative Officer and we have included the Administration's responses. We wish to express our gratitude to the Departments of Technology and Communication Services, Police, Fire and Rescue Services, and County Administration for the cooperation and assistance extended to us during the course of this engagement.

A handwritten signature in blue ink, appearing to read "Craig Glendenning", followed by a long horizontal flourish.

Craig Glendenning, CPA
County Auditor

EXECUTIVE SUMMARY

We conducted a performance audit of the County's computer equipment inventory. The objectives of our audit were to:

1. Review and evaluate internal controls over computer equipment inventories.
2. Ensure that all purchases of computer equipment are posted to detail inventory records in a timely manner.
3. Ensure the accuracy of the detail inventory records.

Conclusions

For our first objective, we found the following weaknesses:

- The County had no policy governing accountability and control of non-capital assets including sensitive equipment such as computers.
- There were multiple purchases of computers without Department of Technology and Communication Services (DTCS) approval.
- We found numerous instances in which other departments purchased computers using a County procurement card without DTCS approval. In one case there was a fiscal year-end transaction totaling \$12,580 for the purchase of 40 iPads using a split purchase to circumvent individual transaction limits.
- Inventory procedures, including physical inventory processes, were not comprehensive and duties were not adequately segregated. As a result of our audit the number of computers being tracked by DTCS increased 34% (898) from October 2014 to January 2015.

For our second objective, we found that purchases of technology equipment were often not added to the automated detail records maintained by DTCS. Our test of 169 computers purchased in FY14 found that 68% had not been added to the records for at least four months.

For our third objective, we found the following:

- DTCS was unable to locate 5 of the 115 computers we tested that were reported as inventory.
- DTCS records did not include 37 of 115 computers located in County departments.
- DTCS inventory records did not match the records maintained by the Department of Fire and Rescue Services (DFRS) and the Department of Police (DOP), which maintained their own detail records. For example, records maintained by DFRS indicated a total of 495 computers while the DTCS records reflected only 199 items for DFRS.

BACKGROUND

The County maintains a large number of computers to assist in its operations. The Department of Technology and Communication Services (DTCS) administers all of the hardware and software used to implement the County's computer applications. According to DTCS records as of January 2015, the County had over 2,600 computers. This figure does not include mobile data computers (known as MDTs – these are laptops installed in County owned vehicles such as police cars).

To control the computer inventory, DTCS uses an automated software tool to track all computers other than the MDTs. The software generates a report that lists all computers that have not logged into the network for a predetermined number of days. Using this report, DTCS can investigate these computers and update the records as required. In addition, DTCS maintains automated records for the MDTs but does not use the software tracking tool as the MDTs do not access the general county network. DTCS maintains separate listings of all MDTs it purchases for County departments, including the Department of Police (DOP) and the Department of Fire and Rescue Services (DFRS).

Other departments within the County also have information technology staffs and maintain separate inventory records for computers and related equipment. For example, DOP and DFRS maintain automated inventory records.

FINDINGS AND RECOMMENDATIONS

Finding 1

The County has no policy governing non-capital or sensitive equipment.

The County has no formal written policy to govern how it accounts for non-capital sensitive equipment such as computer equipment. Sensitive equipment is generally defined as equipment that is prone to loss or theft. Policies should address items such as record keeping, physical inventory requirements and other controls. Current County policy addresses only capital equipment costing over \$5,000 and all weapons.

We recommend that the County develop and implement formal, written policies and procedures for non-capital equipment. Such policies should define sensitive equipment and address accountability requirements such as record keeping and physical inventory requirements.

Administration's Response:

The Administration agrees with this finding and assigned the responsibility of developing a policy to the Director of the Department of Technology and Communication Services.

Finding 2

The County did not have a uniform procurement policy governing technology purchases.

Although the County generally uses centralized purchasing, current purchasing policies do not require DTCS to either procure or approve all computer purchases. As a result, departments have been purchasing computers without DTCS knowledge. Since DTCS is responsible for maintaining and securing the County's information technology systems, these purchases can make it harder for DTCS to track inventory and secure its network.

We recommend that the County amend current purchasing policies to require DTCS to review and approve the procurement of technology related items.

Administration's Response:

The Administration concurs with this finding and is in the process of developing an Information Technology (IT) Procurement Policy.

Finding 3**County departments frequently used procurement cards to purchase technology related items.**

The County's purchasing card (PDQ) Manual states that cards are not to be used to purchase assets or inventory items. Related PDQ documents specifically prohibit using the cards to make technology purchases. We found that PDQ cards were frequently used to purchase computers and related items. Using reports, generated by the Office of Purchasing, of PDQ card purchases from vendors likely to sell computer equipment, we identified over 100 purchases of computers and similar items (such as iPads) made from October 2012 to October 2014. Sixty of these purchases (each purchase included multiple computers) were made by departments other than DTCS, and we could not determine if DTCS approved the purchase. For example, the Department of Public Works purchased 40 iPads between June 28 and July 1, 2014 without any documented DTCS review or approval.

We recommend that the Office of Purchasing remind PDQ users that the cards should not be used for technology related items. If the County determines that PDQ card usage is appropriate for certain technology items, such as tablets, we recommend that the County develop procedures to ensure that all such items are properly recorded and accounted for.

Administration's Response:

The Administration concurs with this finding. In October 2014, the Office of Purchasing prohibited the purchase of any type of computer (desktop, laptop, iPad, tablet, etc.) on a PDQ card; this policy change was communicated by email to departmental Coordinators, Approvers, and cardholders, and is now included as a discussion topic in the annual compliance review meeting held with each Coordinator. The planned IT Purchasing Policy will further restrict the purchase of technology items on PDQ cards, and the Purchasing Card Program Administrator is working with County Administration and DTCS to set up a tracking, penalty, and notification system so that any out-of-policy purchases are reported and inventoried, if necessary.

Finding 4**Duties over computer inventory at DTCS were not adequately separated.**

The same employee at DTCS was responsible for receiving all computer purchases, distributing computers to other departments, maintaining the related automated inventory records, monitoring inventory (as opposed to physical inventories) and processing disposals. As a result, this employee had excessive control over computer inventory and, among other things, was in a position to remove inventory and modify the records.

We recommend that DTCS better segregate duties related to computer inventory.

Administration's Response:

The administration agrees with this finding and has taken immediate steps to provide separation of responsibility. Prior to the audit report, the Service Desk was responsible for receiving and logging all computer purchases, distributing computers to other departments and maintaining the related automated inventory records, monitoring inventory and processing disposals.

Under the revised procedure, Radio Communications will be responsible for receiving and logging all computer purchases made by DTCS, maintaining the related automated inventory records and processing disposals. The Radio Manager will verify all equipment.

Inventory records and materials will be covered by two personnel from the Radio Department and one person from the Software Development Group who will record the serial numbers of all incoming equipment in a secured room. Only DTCS personnel and leadership will have access to the area. Equipment taken from the secured area will be noted when it leaves the area for imaging of the hard drive and then returned to the secured area until it is issued by the Desktop Manager/Technicians.

The cage where inventory is stored will have limited access to include senior management and select Radio Communications personnel. Service Desk employees will not have access to the inventory cage.

Finding 5

Procedures over physical inventories were not comprehensive.

Our review of the physical inventory procedures at the three departments reviewed disclosed the following:

- During the audit, DTCS staff stated that they were unable to identify all computers logging into the system. In addition, other computers not purchased by DTCS were logging into the network but were not identified by the software. To combat these issues, DTCS worked with other departments to eliminate certain issues that were blocking the tool from working and also implemented a fix to place the tracking software on any computer logging into the network that didn't have the tool already installed. As a result of these actions, the number of computers being tracked increased from 1,702 computers per inventory records provided to us in October 2014 to over 2,600 as of January 2015.
- DOP performs periodic physical inventories by sending lists of equipment to all units for verification and correction. DOP last performed this in August 2014. Our review found that

while the inventory included all units, the department did not retain documentation of computers that had been removed from inventory (either as missing or surplus inventory). This process does not include mobile data terminals. Rather, DOP monitors MDTs using automated software similar to that used by DTCS.

- DFRS did not perform routine comprehensive physical inventories. After we started our audit, DFRS initiated a full physical inventory of all units include mobile data terminals. DFRS is still in the process of following up on the results of the inventory.

We recommend that:

- ***DTCS continue its efforts to ensure that all computers are tracked and monitored.***
- ***DTCS ensure that all departments with MDTs have procedures in place to periodically inventory or otherwise track these units.***
- ***DOP maintain documentation that summarizes any equipment not found during the inventory process and the results of any investigation (such as surplused or missing equipment).***
- ***DFRS continue its inventory process and ensure that periodic inventories are performed in the future.***

Administration's Response:

The Administration agrees with this finding. DTCS will continue its efforts to ensure all internal computers will be tracked and monitored using the Kace Agent. Devices that reside outside of the county network (MDT's) will be monitored and tracked using MobiControls.

All new purchases of IT equipment will be added to Kace Asset management. Information on each asset will include Make, Model, PO, invoice number, ship date, and serial number. Computer equipment, not yet deployed, will be stored in a secure warehouse in the Ascend Bldg.

DTCS is working with HCPD and HCFRS who are using MobiControls to inventory and track their MDTs. DTCS will be given access to this tool to further enhance its ability to ensure all departments with MDTs have procedures in place to periodically inventory and track their MDTs. Inventories of the MDTs and other mobile devices managed through MobiControls will be uploaded into the Kace Asset Management module on a monthly basis.

DTCS currently enforces the collection of all surplus equipment that is replaced with new equipment. The hard drives are removed, logged for destruction, and then shredded. The physical hardware is logged, palletized, picked up by Bureau of Facilities, and turned over to Office of Purchasing to dispose.

Finding 6

Purchases of computer equipment were often not posted to the detail automated inventory records.

Purchases of new computer equipment were often not posted to the automated detail inventory records. Our test of 10 purchases totaling 169 computers at a cost of \$290,000 made during fiscal year 2014 found that 115 computers (68%) had not been posted to the detail inventory records as of October 24, 2014.

We recommend that all purchases of computer equipment be posted to the detail inventory records in a timely manner.

Administration's Response:

The Administration agrees with this finding. Prior to the audit report, DTCS put computer equipment into the inventory when the unit was deployed. The new procedure is to inventory all equipment when it is received from shipping.

Finding 7

DTCS inventory records did not agree with inventory actually on hand.

Our test of 115 computers recorded on DTCS records disclosed that 5 items could not be located. Furthermore, our test of an additional 115 computer items located in County departments found that 37 could be found in the DTCS records. DTCS staff was unable to explain the differences.

We recommend that DTCS continue its efforts to ensure the accuracy of its detail inventory records. We also recommend that DTCS determine the status of the five items not located during the audit (such as, surplus, missing or reassigned).

Administration's Response:

The Administration agrees with the finding that accuracy of inventory records is important. DTCS relies on automated tools to track computer equipment deployed to various departments. Those tools can fail sometimes and not report a computer that is deployed, thereby creating an inaccurate report. DTCS will take steps to evaluate other solutions utilized by the Howard County Public School System and the Howard Community College to see if a better solution exists.

Regarding the missing items, DTCS relies on each department to turn in equipment no longer needed. When an employee is no longer employed by the County the employee turns in their computer to a designee in their department. Often, the department designee does not return the equipment to DTCS for reuse or disposal. DTCS puts that equipment

on an “MIA” list for follow-up. Many times the equipment can be retrieved, but sometimes it is not found.

Finding 8

DTCS inventory records did not agree with inventory records maintained by other departments or with inventory actually on hand.

DOP and DFRS maintain independent inventory records. While in theory the DTCS and department records should match, our review found that this was not the case. Specifically, according to DTCS records, DOP had 690 inventory items, but DOP records indicated a total of 1,081 items. We found that DTCS and DOP records contained 679 common items (inventory items in both sets of records). The DTCS records for DFRS indicated a total of 199 items while the DFRS-maintained records included 495 items. When we compared the detail records to each other, we found that the DFRS and DTCS records included only 54 common items.

We recommend that DTCS, DOP and DFRS continue their efforts to ensure the accuracy of the detail inventory records.

Administration’s Response:

The Administration agrees with this finding. Computer equipment inventory is generally received by three different departments – DTCS, DOP & DFRS. The discrepancy between DTCS inventory records and the records of DOP & DFRS is mainly due to a lack of sharing of information and timing of deployments.

DTCS, DOP & DFRS will begin a new process of meeting on a quarterly basis to compare inventory lists, identify discrepancies and update inventory logs to ensure accuracy.

Other Items of Interest

Finding 9

One PDQ purchase was split to avoid single transaction limits.

As part of the purchase of 40 iPads commented on earlier in the report, we found that one transaction totaling \$12,580 appeared to have been split into smaller purchases to avoid individual transaction limits. The County’s PDQ Manual specifically prohibits the splitting of larger purchases to circumvent authorized spending limits.

We recommend that PDQ card transactions not be split to circumvent controls.

Administration's Response:

The Administration concurs with this finding. Splitting a transaction to circumvent PDQ limits is a violation of current PDQ policy. The Purchasing Card Program Administrator reviews all county PDQ card transactions at the end of each billing cycle, and sorts the list by vendor, date, and cardholder in an effort to spot potential split transactions. Split transactions, as well as any other policy violations, are brought to the attention of the departmental Approver, who is asked to explain the anomaly and address the issue with the cardholder.

AUDIT SCOPE, OBJECTIVES AND METHODOLOGY

We conducted a performance audit of the County's computer equipment inventory. We included desktop and laptop computers as well as tablets and similar items. The audit did not include capitalized computer equipment (those items costing over \$5,000) with the exception of certain laptops that exceeded this amount. The audit also did not include other types of sensitive equipment with a cost of less than \$5,000.

We conducted our audit in accordance with generally accepted government auditing standards prescribed by the Comptroller General of the United States. Those standards require us to 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 we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The objectives of our audit were to:

1. Review and evaluate internal controls over computer equipment inventories.
2. Ensure that all purchases of computer equipment are posted to detail inventory records in a timely manner.
3. Ensure the accuracy of the detail inventory records.

To accomplish our objectives, we met with personnel from the County's Departments of Technology and Communication Services, Police, and Fire and Rescue Services to document the internal controls and procedures over computer inventory. We also tested compliance with established internal controls and procedures by reviewing computer purchases and testing the accuracy of the inventory records by tracing inventory per the records to actual physical existence. As all inventory records were maintained on automated data systems, we performed tests to ensure the accuracy and completeness of these records.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

We conducted our field work from August to December 2014. The DTCS, DOP and DFRS responses to our findings and recommendations are included in this report.

AUDIT TEAM

Edward L. Shulder, CPA

Deputy County Auditor

Stephen E. Peters, Jr., CPA

Audit Manager

S. Ali Shirazie, CPA

Senior Auditor