

# City of New York

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## OFFICE OF THE COMPTROLLER

Scott M. Stringer  
COMPTROLLER



## FINANCIAL AUDIT

**Marjorie Landa**

Deputy Comptroller for Audit

Follow-up Audit Report on the  
Department of Education's Oversight of  
Computer Hardware Purchased through  
the Apple Inc. and Lenovo Inc.  
Contracts

FN17-098F

July 19, 2017

<http://comptroller.nyc.gov>



THE CITY OF NEW YORK  
**OFFICE OF THE COMPTROLLER**  
SCOTT M. STRINGER

July 19, 2017

To the Residents of the City of New York:

My office has conducted a follow-up audit on the inventory controls and management practices of the New York City Department of Education (DOE) to determine whether DOE implemented the eight recommendations made in the prior *Audit Report on the Department of Education's Oversight of Computer Hardware Purchased Through the Apple Inc. and Lenovo Inc. Contracts (Audit # FM14-057A)* issued on December 1, 2014. We audit City agencies, such as DOE, as a means of ensuring that they effectively manage City assets entrusted to them and do so in accordance with applicable rules and regulations.

This follow-up audit found that DOE has not improved its inventory controls over computer hardware because it did not agree to implement the majority of recommendations made in the Comptroller's prior audit report. Specifically, the audit found that DOE did not implement five recommendations and partially implemented the remaining three recommendations. DOE maintained that it did not implement or fully implement the prior audit report's recommendations because they were not cost-effective or practical. This follow-up audit also found that DOE did not provide sites with sufficient guidance and support to ensure that decentralized inventory records were accurate and complete and that adequate controls were in place to properly safeguard computer hardware. Further, based on the inspections at nine sampled sites (eight schools and one administrative site), we found that DOE's decentralized inventory records remain inaccurate and incomplete, and a significant portion of sites' hardware could not be accounted for, including desktops, laptops, and tablets. Thus, we found that DOE's inventory records remain inaccurate and incomplete and DOE computer hardware is at risk of being lost, stolen, and wasted.

This audit reiterates the eight recommendations that were previously made and not implemented or partially implemented, and made 11 new recommendations to DOE, including that DOE strengthen its controls by ensuring that its Office of the Auditor General conducts inventory procedures as part of its annual field audits; label all computer hardware, including tablets; determine the physical location of unaccounted-for computer hardware at the nine sites sampled as part of this audit; ensure DOE sites advertise unused computer hardware on the DOE website to prevent waste and redundant purchases; and provide Inventory Officers with inventory training and resources needed to maintain accurate and complete inventory records and adequate controls.

The results of this audit have been discussed with DOE officials and their comments have been considered in preparing this report. DOE's complete written response is attached to this report. If you have any questions concerning this report, please e-mail my Audit Bureau at [audit@comptroller.nyc.gov](mailto:audit@comptroller.nyc.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott M. Stringer".

Scott M. Stringer

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# THE CITY OF NEW YORK OFFICE OF THE COMPTROLLER FINANCIAL AUDIT

## Follow-up Audit Report on the Department of Education's Oversight of Computer Hardware Purchased through the Apple Inc. and Lenovo Inc. Contracts

**FN17-098F**

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### EXECUTIVE SUMMARY

This audit was conducted to follow up on the New York City Comptroller's Office's *Audit Report on the Department of Education's Oversight of Computer Hardware Purchased through the Apple Inc. and Lenovo Inc. Contracts (Audit # FM14-057A)* issued on December 1, 2014. In that earlier audit we found that the controls and management practices of the New York City Department of Education (DOE or the Department) in relation to computer hardware inventory were insufficient to ensure that its computer hardware was properly accounted for. DOE disagreed with the prior audit's findings and with six of the eight recommendations. The objective of this audit was to determine whether DOE implemented the eight recommendations made in the prior audit report.

The DOE contracts with three Original Equipment Manufacturer (OEM) vendors to purchase computer hardware for use by students, teachers, and administrative staff. DOE entered into contracts totaling \$209.9 million with Apple Inc. (\$105 million), Lenovo Inc. (\$81.9 million), and CDW Government LLC, for Google Chromebooks (\$23 million).

In addition, DOE entered into separate contracts with Dell Marketing LP (Dell) and ASI System Integration (ASI) to act as Personal Computing Solutions (PCS) vendors. As PCS vendors, Dell and ASI are responsible for the installation, repair, certain asset tracking and disposal of computer hardware including desktops and laptops. (Tablets are shipped directly from the manufacturer to administrative sites and schools.)

DOE requires administrators at each of its 2,278 sites to maintain and update inventory records and implement appropriate internal controls to ensure that all inventories are accounted for and properly safeguarded. The OEM vendors are responsible for supplying DOE with inventory information for all of the computer hardware, except the Apple tablets. In turn, DOE uploads the information into its Asset Management System (AMS). According to DOE, it primarily uses AMS

to track hardware warranty and service data. However, DOE also states that schools should use AMS data as the basis for creating and updating their inventory records.

## Audit Findings and Conclusions

Overall, we found that DOE has not improved its inventory controls over computer hardware because it did not agree to implement the majority of recommendations made in the Comptroller's prior audit report. As noted, DOE did not agree to implement six of the eight recommendations made in the prior audit report. However, based on our review, DOE did not implement five recommendations and partially implemented the remaining three recommendations. Although DOE spends hundreds of millions of dollars on computer hardware, it maintained that it did not implement or fully implement the prior audit report's recommendations because they were not cost-effective or practical.

In addition to these findings, we found that DOE did not provide sites with sufficient guidance and support to ensure that decentralized inventory records were accurate and complete and that adequate controls were in place to properly safeguard computer hardware.

Since DOE did not improve its controls over computer hardware and provide sites with sufficient guidance and support, DOE's inventory records remain inaccurate and incomplete and DOE computer hardware is at risk of being lost, stolen, and wasted. Based on our inspections at nine sampled sites (eight schools and one administrative site), DOE's decentralized inventory records remain inaccurate and incomplete, and a significant portion of sites' hardware could not be accounted for, including desktops, laptops, and tablets. Specifically, DOE did not properly account for 4,993 out of the 14,329 pieces of computer hardware in our sample, 34.9 percent, at the nine sampled sites. Of these 4,993 items, we looked for but did not observe 1,816 pieces of computer hardware during our physical inspections and the sites did not include 3,541 pieces of computer hardware in their inventory records, as detailed in the Appendix.<sup>1</sup>

## Audit Recommendations

To address these issues, we reiterate the eight recommendations that were previously made and not implemented or partially implemented. In addition, we make 11 new recommendations to DOE. Our combined 19 recommendations include that DOE should:

- Have a centralized inventory system for computer hardware that includes purchase and delivery information as well as current location. DOE should explore using its existing AMS system for this purpose.
- Routinely monitor recordkeeping procedures for computer hardware at DOE sites to ensure that accurate and complete inventories are maintained.
- Determine the physical locations of the 1,816 pieces of unaccounted-for computer hardware that could not be identified during our follow-up inventory inspections conducted at nine sampled sites as part of this audit.

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<sup>1</sup> The number of pieces of computer hardware that were not physically accounted for (1,816) and the number of pieces of computer hardware that were not recorded in site inventory records (3,541) do not add up to the total number of pieces of computer hardware that were not properly accounted for (4,993) because there were 364 pieces of computer hardware that were cited in both categories— not physically accounted for and not recorded in site inventory records.

- Conduct a system-wide inventory count and reconciliation of DOE data to determine if other computers are not properly accounted for.
- Refer evidence of misconduct in connection with the purchase, receipt and usage of computer equipment to appropriate authorities, including law enforcement in the case of evidence of potential criminal activity.
- Consider implementing and activating tracking software on computer hardware, especially those items that are most susceptible to theft and loss.
- Provide administrative site and school Inventory Officers with annual inventory training, AMS access, and other resources needed to maintain accurate and complete inventory records and adequate controls, including tracking software and/or barcode scanners and additional staffing and/or PCS vendor support.

## Agency Response

In its response, as with the prior audit, DOE does not acknowledge or address the significant inventory control deficiencies identified by the audit. Further, DOE fails to properly account for almost 5,000 pieces of computer hardware. While DOE maintains that site location inventories collectively “account for equipment purchased system-wide,” it never explains how that could be the case when it does not compare the individual location inventories to its purchasing records. And as with its response to the prior audit, DOE questioned the cost effectiveness of taking specific measures recommended to help ensure that the hundreds of millions of dollars in purchases of computer equipment it has made and continues to make are actually used for DOE purposes. Instead, DOE criticizes the audit methodology as fundamentally flawed. With regard to the 19 recommendations addressed to DOE in this audit, DOE agreed with 7 recommendations, partially agreed with 3 recommendations, and disagreed with the remaining 9.

Among its criticisms of the audit methodology, DOE states that “AMS should not be treated as a centralized inventory system. . . . The main purpose of AMS is to support IT maintenance. No unique designation appropriate for tracking administrative office’s inventory is available in AMS.” However, while the DOE’s current use of AMS is recognized in the audit, we found that AMS “*could be used* to track hardware warranty and service data, as well as computer inventory.” [Emphasis added.] As noted in the report, this recommendation is based, in part, on the fact that AMS already captures key data that DOE’s Standard Operating Procedures for Inventory (the DOE Inventory SOP) requires sites to record in their inventory records, and DOE instructs schools to use AMS data as the basis for creating and updating their inventory records. Furthermore, contrary to DOE’s assertion, AMS can track computer hardware for both schools and administrative sites.

DOE also states that “[t]he DOE’s review of the data used to formulate the Comptroller’s findings uncovered weaknesses in analysis and fieldwork methodology. The DOE stressed these errors at multiple meetings with the Comptroller at the conclusion of the audit. However, rather than respond to these concerns, the Comptroller has instead concluded the audit, even though, notably, requests for information are still open.” Contrary to DOE’s assertions, however, for more than six weeks following the issuance of our preliminary report, DOE was afforded the opportunity to discuss its concerns in-person and via telephone and email, and to provide additional documentation to account for computer hardware. As noted in this report, the audit findings and recommendations specifically take into consideration the information provided during this period, along with the other information obtained during the audit.

We note that despite its criticisms about the audit’s methodology and conclusions, DOE stated it “is planning some changes to its help desk and device management strategies” and that it would “explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.”

# AUDIT REPORT

## Background

During the follow-up audit scope period, DOE contracted with three OEM vendors to purchase computer hardware for use by students, teachers, and administrative staff. DOE entered into contracts totaling \$209.9 million with Apple Inc. on March 3, 2016 (\$105 million), Lenovo Inc. on July 1, 2014 (\$81.9 million), and CDW Government LLC, for Google Chromebooks, on July 1, 2014 (\$23 million).

In addition, DOE entered into separate contracts with Dell Marketing LP (Dell) and ASI System Integration (ASI) to act as Personal Computing Solutions (PCS) vendors. As PCS vendors, Dell and ASI are responsible for the installation, repair, certain asset tracking and disposal of computer hardware including desktops and laptops.<sup>2</sup> (Tablets are shipped directly from the manufacturer to administrative sites and schools.) With regard to asset tracking, the Dell contract states that “Dell will maintain (i.e., update after a Disposal or MAC [moves/adds/changes]) Asset Management Database records while the OEM will create new records (i.e., populate) the Inventory records.” Similarly, the ASI contract states that “[t]he service provider will have the responsibilities for update of asset records for the equipment assigned to them and work with the DOE to ensure these records are used to update the DOE inventory of records. The vendor shall use best efforts to update the Asset Management Database on a near real time basis.”

The DOE Inventory SOP Section 2.1, requires administrators at each of its 2,278 sites to maintain and update inventory records and implement appropriate internal controls to ensure that all inventories are accounted for and properly safeguarded. Further, the DOE Inventory SOP Section 1.1 states that

[t]he maintenance of accurate inventories of equipment, supplies, and textbooks is an important factor in creating the atmosphere necessary for effective teaching and learning. Inventory records that are up-to-date and accurate can guide a site administrator in ordering new materials, maximizing the use of resources on hand and in minimizing loss or theft.

The OEM vendors supply DOE’s Division of Information and Instructional Technology (DIIT) with inventory information for all the computer hardware, except for the Apple tablets. This information includes asset description, manufacturer, model number, serial number, DOE asset tag number and the location of where it is installed. DIIT, in turn, uploads the information into AMS. According to DOE, it primarily uses AMS to track hardware warranty and service data. However, DOE also states that schools should use AMS data as the basis for creating and updating their inventory records. DOE developed an AMS web interface, known as the Asset Inventory Tool, to provide authorized AMS users “a simple and easy way of tracking computer related equipment (assets) in New York City public schools and administrative offices. The Web interface allows authorized users to quickly access asset reports for their respective locations.”

*An Audit Report on the Department of Education’s Oversight of Computer Hardware Purchased through the Apple Inc. and Lenovo Inc. Contracts (Audit # FM14-057A) was issued by the New*

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<sup>2</sup> Each year administrative sites and schools must select one of these two companies as a PCS vendor and a PCS vendor service plan. Sites may select either a “basic” or “standard” plan. Under the basic plan, sites must pay an added charge for delivery and installation of computer hardware. This service is included in the standard plan.

York City Comptroller's Office on December 1, 2014. The audit was conducted to determine whether the DOE computers purchased through the Apple and Lenovo contracts were properly accounted for by the Department.

The prior audit found that DOE's controls and management over its computer hardware were insufficient to ensure that it properly accounted for its computer hardware. Specifically, that audit found that DOE did not maintain a centralized inventory of computer hardware. Further, DOE did not reconcile sites' inventory records with its AMS database in which it records certain computer hardware delivered to DOE. Consequently, the prior audit found that information in AMS was unreliable and failed to properly identify where all of the computers paid for by DOE were located. DOE did not record the location for 1,044 pieces of computer hardware in AMS. An additional 46 pieces of computer hardware were not accounted for at all in AMS. Based on inventory counts at nine sampled locations, the prior report also found that "an additional 727 pieces of computer hardware were missing entirely from the locations they were supposed to be at as identified in AMS" and that 394 pieces of computer hardware were unopened and unused.

DOE disagreed with the prior audit's findings as well as with six of the eight recommendations.

## Objective

The objective of this audit is to determine whether DOE implemented the recommendations made in the prior audit report.

## Scope and Methodology Statement

We conducted this performance audit in accordance with generally accepted government auditing standards. Those 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. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit was from July 1, 2014 through June 30, 2016. We also performed detailed testing based on the current inventory records maintained by DOE sites during the audit process. Please refer to the Detailed Scope and Methodology at the end of this report for the specific procedures and tests that were conducted.

## Discussion of Audit Results

The matters covered in this report were discussed with DOE officials during and at the conclusion of this audit. A preliminary draft report was sent to DOE on May 16, 2017 and discussed at exit conferences held on June 1, 2017, and June 6, 2017. On June 12, 2017, we submitted a draft report to DOE with a request for comments. We received DOE's written response on June 26, 2017.

In its response, as with the prior audit, DOE does not acknowledge or address the significant inventory control deficiencies identified by the audit. In addition, DOE fails to properly account for almost 5,000 pieces of computer hardware. While DOE maintains that site location inventories collectively "account for equipment purchased system-wide," it never explains how that could be

the case when it does not compare the individual location inventories to its purchasing records. And as with its response to the prior audit, DOE questioned the cost effectiveness of taking specific measures recommended to help ensure that the hundreds of millions of dollars in purchases of computer equipment it has made and continues to make are actually used for DOE purposes. Instead, DOE criticizes the audit methodology as fundamentally flawed. With regard to the 19 recommendations addressed to DOE, DOE agreed with 7 recommendations, partially agreed with 3 recommendations, and disagreed with the remaining 9.

Specifically, DOE stated:

The Comptroller recommended in its 2014 audit report that the DOE implement a centralized inventory system, preferably using the DOE's Asset Management System (AMS). During the current audit, as well as the 2014 audit, the DOE stressed that AMS should not be treated as a centralized inventory system. The DOE's response to the 2014 audit outlines why it is not practical for AMS to be used as an inventory system. One of the many examples explained to the Comptroller throughout the course of both audits is being offered here to provide context: The main purpose of AMS is to support IT maintenance. Accordingly, assets are tracked by the physical building address, not by office. Unlike schools, DOE administrative offices are mostly co-located in a single building and therefore asset information recorded in AMS for all offices in a single physical building are associated with a shared address. No unique designation appropriate for tracking administrative office's inventory is available in AMS. As a result, administrative offices cannot upload location-specific edits to the AMS, a critical data point for an inventory system.

Due to the limits of AMS, the DOE stressed to the Comptroller that a more accurate and reliable test would be to compare assets purchase data to site inventories. This would enable the Comptroller to see *all* purchases (e.g., iPads are not included in AMS data) under the contracts selected for audit and check that sites had adequate controls over said purchases. However, the Comptroller designed their audit tests around how they think the DOE should utilize AMS instead of letting the conditions of the environment determine the appropriate tests. As a result, the Comptroller failed to obtain meaningful results and in turn limited their ability to provide the DOE with recommendations that are implementable.

The DOE's review of the data used to formulate the Comptroller's findings uncovered weaknesses in analysis and fieldwork methodology. The DOE stressed these errors at multiple meetings with the Comptroller at the conclusion of the audit. However, rather than respond to these concerns, the Comptroller has instead concluded the audit, even though, notably, requests for information are still open. It is the DOE's position that in numerous instances the Report forms erroneous conclusions attributable to the auditors' failure to make the necessary inquiry and/or not placing requisite emphasis on the information provided by the DOE. Therefore, the findings and recommendations are not built from a foundation that accurately reflects the condition of the DOE's inventory listings.

Nevertheless, DOE stated it "is planning some changes to its help desk and device management strategies" and that it would "explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner. After

the completion of deploying the appropriate DM [Device Management] software solutions for each device, the DOE will have updated information on computer assets through network-discovery and active management.”

With regard to DOE’s central argument that “AMS should not be treated as a centralized inventory system” and that “it is not practical for AMS to be used as an inventory system,” the audit report states that DOE “could be used to track hardware warranty and service data, as well as computer inventory.” As detailed in the report, AMS already captures key data that DOE’s Inventory SOP requires sites to record in their inventory records and DOE instructs schools to use AMS data as the basis for creating and updating their inventory records. Furthermore, contrary to DOE’s assertion, AMS can track computer hardware for both schools and administrative sites. DOE developed a web interface for AMS, known as the Asset Inventory Tool. In its *Asset Inventory Tool An Overview of the Asset Inventory Tool*, DOE states that it was developed to

provide a simple and easy way of tracking computer related equipment (assets) in New York City public schools **and administrative offices**. The Web interface allows authorized users to quickly access asset reports for their respective locations. [Emphasis added.]

Authorized AMS users can also add, edit, and delete asset information.

In conducting our inventory testing, we compiled a list of computer hardware that should be physically present based on AMS lists of items that were purchased and that are operational, site inventory lists, auditor observations, and packing slips for Apple tablets (AMS lists do not include Apple tablets that are not serviced by DIIT or PCS vendors). In its response, DOE states that it “stressed to the Comptroller that a more accurate and reliable test would be to compare assets purchase data to site inventories.” However, AMS data *is* a record of computer hardware purchasing data. As previously stated, OEM vendors supply DOE with inventory information for all the computer hardware that DOE purchases (except for Apple tablets). DOE, in turn, uploads this information into AMS. In its Inventory SOP Section 3.2, DOE acknowledges that AMS “is a database containing records of all computer-related equipment . . . purchased via FAMIS.” Furthermore, DOE instructs sites to use AMS data as the basis for creating and updating their inventory records. Therefore, it is wholly reasonable and appropriate to use AMS data, in part, as a basis for our inventory testing.

We also note that AMS inventory lists and site inventory lists were largely consistent. In fact, 9,021 of the 11,277 pieces of computer hardware, 80 percent, that were recorded in AMS were also recorded on site inventory lists.

Lastly, DOE’s assertions of “weaknesses in analysis and fieldwork methodology” and “erroneous conclusions” are not supported by the facts. Rather than failing “to make the necessary inquiry and/or not placing requisite emphasis on the information provided by the DOE,” the audit team first formally discussed our preliminary findings on May 10, 2017, and provided DOE with preliminary lists of the computer hardware that was not physically accounted for and the computer hardware that was not recorded on site inventory lists the following day. From that time, up until the date that DOE formally responded to the draft report, June 26, 2017, DOE was given the opportunity to review and to respond to the preliminary audit findings, and did discuss its concerns in-person and via telephone and email. Moreover, DOE had that time to identify the locations of the computer hardware that we had been unable to locate based on the information provided by DOE. While DOE professes to be able to account for all equipment purchased system-wide, it never accounted for those items we cite in the audit report that we could not locate. Moreover,

we addressed each of the concerns DOE raised, reviewed all the additional documentation that was made available to us, and adjusted our preliminary findings when warranted.

The full text of DOE's response is included as an addendum to this report.

## RESULTS OF FOLLOW-UP AUDIT

This follow-up audit found that DOE has generally not improved its inventory controls over computer hardware because it did not agree to implement the majority of recommendations made in the Comptroller's prior audit report. As previously mentioned, DOE did not agree to implement six of the eight recommendations made in the prior audit report. Based on our review, DOE did not implement five recommendations and only partially implemented the remaining three recommendations. DOE maintained that it did not implement or fully implement the prior audit report's recommendations because they were not cost-effective or practical. As a result, DOE's inventory records remain inaccurate and incomplete and DOE computer hardware is at risk of being lost, stolen, and wasted.

We found that DOE did not implement a centralized inventory database for computer hardware, and did not conduct a system-wide inventory count and reconciliation of DOE data to determine whether it has properly accounted for all the computer hardware it has purchased. Additionally, DOE did not monitor its sites' recordkeeping procedures, nor did it give them sufficient guidance and support to ensure that decentralized inventory records were accurate and complete and that adequate controls were in place to properly safeguard computer hardware.

Based on our inspections at nine sampled sites (eight schools and one administrative site), DOE's decentralized inventory records remain inaccurate and incomplete, and a significant portion of sites' hardware could not be accounted for, including desktops, laptops, and tablets. Specifically, DOE failed to properly account for 4,993 out of 14,329 pieces of computer hardware, 34.9 percent, at the nine sampled sites. Of these 4,993 items, we looked for but did not observe 1,816 pieces of computer hardware during our physical inspections and/or the sites did not include 3,541 pieces of computer hardware in their inventory records, as detailed in the Appendix.

As a consequence of DOE's failure to properly account for computer hardware, DOE staff and students may not have the resources they need for effective classroom instruction, and DOE may be incurring unnecessary costs for lost, stolen, or wasted equipment. As previously mentioned, the three computer hardware contracts have a combined value of \$209.9 million. The three contracts are for monitors that cost between \$94 and \$452 each, tablets that cost between \$251 and \$900, laptops that cost between \$167 and \$2,339, desktops that cost between \$332 and \$2,290, and other equipment.

In addition, DOE did not implement an effective system to identify and redeploy unused computer hardware in its schools' inventories. DOE partially implemented the recommendation to transfer such unused items to locations where they were needed. Specifically, the DOE Inventory SOP instructs its individual sites to review stock levels and DOE enables them to advertise unused pieces of computer hardware items on the "Advertised Items" page of the DOE website, which could result in their being transferred to other DOE sites or salvage vendors. However, through our sampled inventory inspections, we found 720 pieces of unused computer hardware at five sites, none of which had been advertised on the DOE website or otherwise offered to schools or other DOE locations that could have used them, as detailed in the Appendix.

We also found that DOE partially implemented the recommendation to determine the physical locations of 1,817 computers that could not be identified during the prior audit's physical inventory counts. DOE did not attempt to locate 1,090 pieces of computer hardware that were primarily recorded in AMS as "Asset Location Unknown" because DOE continues to maintain that AMS is not an inventory system and therefore, notwithstanding its "location unknown" designation in

DOE's view there was "no proof that the 1,090 pieces of equipment are unaccounted for. . . ." As for the remaining 727 pieces of missing hardware, DOE reported that it was able to determine the locations of 353 items. However, when we attempted to inspect 188 of those 353 items, which DOE said had been located at two sites, DOE could only account for 69 of them, or 36.7 percent. In addition, although DOE by its own count did not and/or could not locate 1,464 of the 1,817 items that could not be located in the prior audit (which includes 1,044 items identified in AMS as having a "location unknown" and 46 pieces of computer hardware that were not accounted for at all in AMS that DOE acknowledged it did not look for), it did not implement the recommendation that it refer evidence of misconduct in connection with the purchase, receipt, and usage of computer equipment to appropriate authorities.

Finally, we found that DOE partially implemented the recommendation to revise its SOPs in that it now requires individual DOE locations to include tablets and netbooks in their annual inventory counts. However, based on our physical inspections of computer hardware and review of records at nine sampled sites, two of them have nonetheless failed to include tablets and netbooks in their inventory records and counts.

**Previous Finding:** DOE has “Inaccurate and Incomplete Inventory Lists”

The previous audit found that DOE did not maintain accurate, complete or consistent records of its computer hardware. Of the DOE sites sampled in that audit, DOE was unable to provide the locations of 1,817 computers—including desktops, laptops and tablets—that DOE had purchased. DOE did not maintain a centralized inventory system. Instead, DOE’s Inventory SOP states that each site must conduct *its own* annual inventory count and maintain its own inventory records.

Further, the SOP requires that an “inventory of computers will be taken and maintained by Dell Managed Services (the former PCS vendor).” However, we found that PCS vendors only update AMS when they relocate or dispose of computers. Further, the previous audit review of AMS found that its data was not accurate, and that DOE failed to take sufficient steps to ensure its accuracy.

Without a complete and accurate centralized inventory record, it is difficult to determine whether computers purchased by DOE are being used for the purpose for which they were purchased or whether they are being used by DOE at all. Moreover, the absence of an accurate inventory system exposes DOE to a significant risk that computers may be stolen and that thefts will not be detected. If DOE required each site to submit the results of its periodic inventory counts, it could conduct reconciliations to verify the accuracy of AMS data, resolve any discrepancies and maintain an accurate central inventory.

***Previous Recommendation #1:*** “DOE should have a centralized inventory system for computer hardware that includes purchase and delivery information as well as current location. DOE should explore using its existing AMS system for this purpose.”

***Previous DOE Response:*** “The DOE does not agree that a single centralized inventory system is cost effective or practical. The DOE will explore if sharing particular data points between our purchasing and OEM populated system will be of benefit to the DOE’s asset management strategy. If necessitated, estimates from vendors regarding related work will be requested and cost effectiveness determined.”

**Current Status:** NOT IMPLEMENTED

DOE continues to reject the prior audit’s recommendation that it implement a centralized inventory system, and did not agree to use AMS for that purpose. According to DOE, it discussed using AMS as an inventory system. However, DOE did not explain or provide us documentation to support why it did not use AMS as an inventory system, notwithstanding the fact that AMS has the capacity to function as one.

New York State Education Law Section 2554(4) states that DOE “shall have the power and it shall be its duty. . . . [t]o have the care, custody, control and safekeeping of all school property or other property of the city used for educational, social or recreational work...and to prescribe rules and regulations for the preservation of such property.” According to DOE’s Inventory SOP Section 1.1,

[t]his includes responsibility for taking a **comprehensive** inventory. . . . The maintenance of accurate inventories of equipment, supplies, and textbooks is an important factor in creating the atmosphere necessary for effective teaching and learning. Inventory records that are up-to-date and accurate can guide a site

administrator in ordering new materials, maximizing the use of resources on hand and in minimizing loss or theft. [Emphasis added.]

Nevertheless, DOE maintains that it is not cost-effective or practical to implement a centralized, comprehensive inventory system. It continues to rely on a decentralized inventory system in which each of its 2,278 sites maintains and updates inventory records and coordinates all aspects of inventory control.

DOE's argument that implementing a comprehensive centralized system would not be practical or cost-effective is undercut by the fact that DOE already has an existing platform, AMS, which could be used to track hardware warranty and service data, as well as computer inventory. AMS already captures key data that DOE's Inventory SOP Section 3.2 requires sites to record in their inventory records, including asset description, manufacturer, model number, serial number, DOE asset tag number, and location. In its *Asset Inventory Tool An Overview of the Asset Inventory Tool*, DIIT states:

The Asset Inventory Tool has been developed to provide a simple and easy way of tracking computer related equipment (assets) in New York City public schools and administrative offices. The Web interface allows authorized users to quickly access asset reports for their respective locations.

Authorized AMS users can also add, edit, and delete asset information.

Further, DOE instructs schools to use AMS data as the basis for creating and updating their inventory records. Specifically, DOE's Inventory SOP Section 3.2 states:

The DOE's Asset Management System (AMS) is a database containing records of all computer-related equipment (including, but not limited to, desktops, laptops, printers, etc.) that were purchased via FAMIS. School Principals have access to this system and can run a report of their computer-related equipment at any time. . . . *Schools should use this report as a foundation for building their equipment inventory database.* [Emphasis added.]

In addition, DOE's Inventory SOP Section 3.6 states that when preparing for annual inventory counts, "schools should run a current report from AMS to help account for any purchases of computer-related equipment that occurred over the year (central and field offices can request this information from the DIIT Helpdesk)."

**Previous Recommendation #2:** "DOE should revise its Standard Operating Procedures to include the following:

- Ensure that all computer hardware purchases, including tablets and netbooks, are included in AMS;
- Require all schools and administrative sites to conduct annual inventory counts and submit the results of their annual inventory counts to a central administrative unit charged with tracking all computer inventory and maintaining a comprehensive and accurate inventory of all DOE computer hardware;
- Reconcile the results of inventory counts with the information in AMS to ensure information in AMS is accurate and up to date; and

- Require all schools and administrative sites to include tablets and netbooks in the annual inventory count.”

**Previous DOE Response:** “The DOE has initiated reviews of its SOP to include appropriate controls for schools and administrative offices and consider the portable nature of the equipment being purchased.”

**Current Status:** PARTIALLY IMPLEMENTED

DOE revised its Inventory SOP in October 2015, and September 2016. However, DOE did not incorporate each of the prior audit report’s recommended revisions. Specifically, DOE’s revised SOP does not include procedures for the following:

- Ensuring that all computer hardware purchases, including tablets and netbooks, are included in AMS;
- Requiring all schools and administrative sites to conduct annual inventory counts and submit the results to a central administrative unit that tracks all computer inventory and maintains a comprehensive and accurate inventory of all DOE computer hardware; and
- Reconciling the results of inventory counts with the information in AMS to ensure information in AMS is accurate and up to date.

DOE did not make these revisions because it continues to reject the prior audit’s recommendation that it implement a centralized inventory system so that it can account for all of the computer items it purchases and to consider using AMS for that purpose. (Please see Recommendation #1.)

DOE’s revised SOP does require all schools and administrative sites to include tablets and netbooks in the annual inventory count. However, based on inventory inspections conducted at nine sampled sites, two of the sites did not include these devices in their inventory records. We report on the accuracy and completeness of site inventory records in Recommendation #3.

**Previous Recommendation #3:** “DOE should routinely monitor recordkeeping procedures for computer hardware at DOE sites to ensure that accurate and complete inventories are maintained.”

**Previous DOE Response:** “It is the responsibility of the principal or administrative office head to ensure that SOP regarding inventory is followed. We will annually issue a reminder to principals and administrative office heads to remind them of this responsibility.”

**Current Status:** NOT IMPLEMENTED

Based on our review, DOE did not monitor recordkeeping procedures at schools and administrative sites to ensure that decentralized inventory records were accurate and complete. As previously mentioned, DOE uses a decentralized inventory system in which site administrators from each of its 2,278 sites are responsible for maintaining and updating the inventory records and coordinating all aspects of inventory control. However, DOE continues to maintain that “[i]t is the responsibility of the principal or administrative office head to ensure that SOP regarding inventory is followed,” and DOE has not established an adequate system to centrally monitor whether and how effectively those officials are performing that responsibility.

DOE's failure to monitor its sites' compliance with what it states is their responsibility to maintain and update inventory records, has contributed to its inventory records remaining inaccurate and incomplete. Moreover, DOE's computer hardware remains at risk of being lost, stolen and wasted, as detailed in the Appendix.

*DOE Did Not Review Decentralized Sites' Inventory Records and Controls*

DOE's Inventory SOP Section 2.1 states that the Office of the Auditor General (OAG) includes inventory procedures in its annual field audits, and that inventory records must be readily accessible for inspection and audit. However, DOE informed us that OAG has not conducted inventory reviews as part of its audits since February 2010. The office reviewed schools' inventory practices between July 2008 and February 2010, but discontinued that activity and chose instead to focus on other areas of operation that it deemed riskier. OAG did not resume school-inventory oversight in response to the prior Comptroller's audit report issued in December 2014 and has never reviewed the inventory practices at administrative sites at any time.

*DOE Did Not Ensure That iPad Products Were Labeled*

DOE's Inventory SOP Section 3.2 states that

Every piece of equipment should be labeled and/or indelibly marked or otherwise permanently tagged with the words 'Property of the Department of Education'. Also included must be the site location. . . . In some special situations, a vendor may not be able to engrave a piece of equipment. If so, it is suggested that the site purchase an engraving tool available at most hardware stores or acquire metallic identification tags.

The purpose of labeling is to "systematically deface" the equipment. This involves making the equipment virtually un-saleable, such as by writing or engraving the school's name in a prominent place.

However, DOE did not ensure that sites label iPad products including iPad Pros, iPads, and iPad Minis. Consequently, those devices, which are more susceptible to theft and loss due to their size and portability, may not be returned to DOE, and DOE would be less likely to be aware of such occurrences because the items were not always recorded in sites' inventory records.

*DOE Did Not Ensure That Inventory Counts Were Conducted and Did Not Review Count Results*

DOE's Inventory SOP Section 2.3 requires that annual inventories of equipment, including computer equipment, "be completed by mid- to late-April of each year (the exact date will be announced annually – in advance – in Principals' Weekly)." Further, DOE's Inventory SOP Section 2.1 states that "[t]he purpose of the annual inventory is to reconcile equipment, supplies, and textbooks on hand with the inventory records on file."

However, DOE did not implement any procedures to monitor administrative sites' compliance with this requirement. Nor did it ensure that procedures to monitor schools' compliance with this requirement were followed. Furthermore, DOE did not review the results of inventory counts on either a comprehensive or sample basis.

DOE's Inventory SOP Section 2.3 states that "[w]ithin 30 days of completing the inventory yet before the annual due date in April, schools must submit an *Annual Inventory Statement* via FAMIS" which certifies that:

an **annual, physical inventory** count of all . . . [e]quipment . . . in my charge has been completed and our inventory database has been updated to reflect the most current quantity, complete description and disposition and disposition of all items at this location in accordance with the *Standard Operating Procedures Manual on 'Inventory.'* [Emphasis in original.]

Section 2.3 further states that Field Support Centers (FSC) "will monitor submission of the statement to ensure that all schools have submitted a completed form by the deadline."<sup>3</sup> To that end, DOE's Inventory SOP Section 3.7 states that the *Annual Inventory Statement* "is automatically routed to the respective FSC responsible for the school." In addition, DIIT provides FSCs with FAMIS summary reports detailing the status of their schools' Annual Inventory Statement submissions.<sup>4</sup>

However, based on our review of FAMIS certification data for School Years 2015 through 2016, FSCs generally did not ensure that schools certified that inventory counts were performed at all or on time. For School Year 2015, only 74 of 1,688 schools, 4.4 percent, submitted an *Annual Inventory Statement* on time. Of the remaining 1,614 schools, 1,191, or 70.6 percent of all schools, submitted an *Annual Inventory Statement* late. Further, we found that 423, or 25 percent of all schools, did not submit an *Annual Inventory Statement* at all. For School Year 2016, only 130 schools submitted an *Annual Inventory Statement*, of which 66 were submitted late.

As suggested by the preceding paragraph, far fewer schools submitted an *Annual Inventory Statement* in 2016 than in 2015. Based on our review of FAMIS data for School Years 2013 through 2016, the number of schools certifying they had performed an annual inventory count decreased dramatically in School Year 2016, as detailed in the chart below.

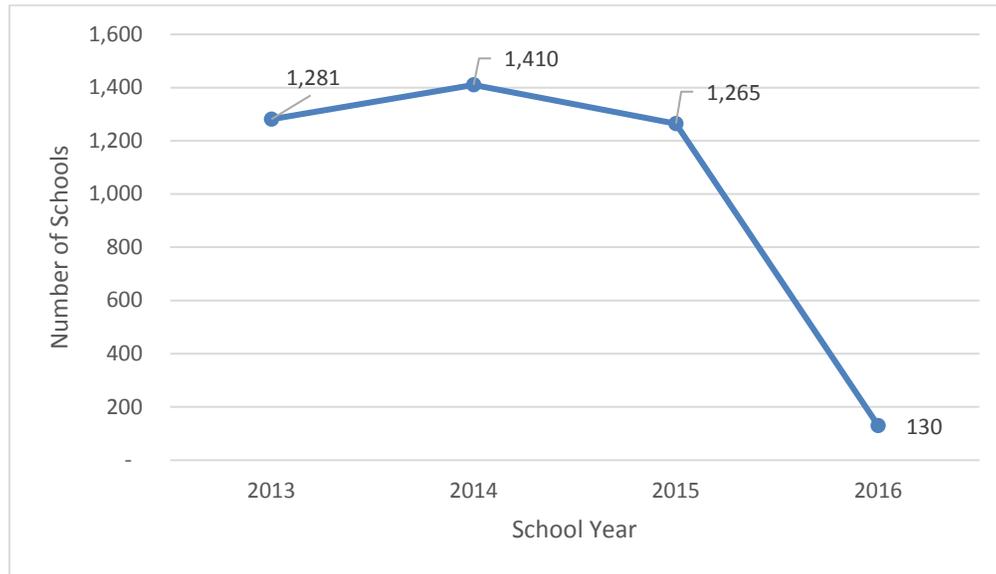
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<sup>3</sup> Field Support Centers provide support in instruction, operations, and student services such as safety, health, and wellness, as well as support for English Language Learners and students with special needs. FSCs provide support through policy and strategic guidance, professional learning, and compliance.

<sup>4</sup> The DOE Financial Accounting Management Information System (FAMIS) is an automated financial system designed to link all financial accounting transactions, from budget initiation to procurement and payment of final invoices.

## CHART 1

### Number of Schools That Certified That an Annual Inventory Count Was Performed for School Years 2013 through 2016



In response to this finding, DOE stated that its focus is on whether schools submit *Annual Inventory Statement* and not when they submit them. However, in overlooking the timeliness of the schools' submission of the required statements, DOE is in effect disregarding the prescription of its own Inventory SOP, Section 2.3, which states that “[w]ithin 30 days of completing the inventory yet before the annual due date in April, schools must submit an *Annual Inventory Statement* via FAMIS.”

Further, DOE stated that only a limited number of schools submitted *Annual Inventory Statements* in 2016 because DOE changed the composition of schools for which each of the FSCs was responsible for overseeing. DOE also stated that a far higher number of schools submitted *Annual Inventory Statements* in 2017. For School Year 2017, 381 of 1,554 schools, 24.5 percent, submitted an *Annual Inventory Statement* on time. Of the remaining 1,173 schools, 1,018, or 65.5 percent of all schools, submitted an *Annual Inventory Statement* late. Further, we found that 155, or 10 percent of all schools, did not submit an *Annual Inventory Statement* at all.

#### *DOE Did Not Ensure That Inventory Officers Were Rotated*

DOE's Inventory SOP Section 1.2 states that Inventory Officers are responsible for coordinating “all aspects of inventory control . . . supervising and handling all records related to the physical inventory of all supplies, materials, textbooks, etc., and overseeing the receipt and removal of inventoried items” and advises that “[t]his position should be rotated periodically as a means of internal control.”

However, DOE did not specify how often this position should be rotated. Based on our review of FAMIS data, DOE did not ensure that school Inventory Officers were rotated periodically. Of the

914 schools that submitted an *Annual Inventory Statement* for each of the School Years 2013 through 2015, 338 schools, 37 percent, had the same Inventory Officer serving for at least three years. Further, based on our review of inventory practices at sampled sites, five of nine sites did not rotate their Inventory Officers at all in seven or more years. Inventory Officers were serving at those sites for between 7 and 15 years.

*Inaccuracies in DOE's Inventory Records Persist Due to Inadequate Monitoring*

In response to our findings, DOE asserted that it does monitor sites in that it issues reminders annually to principals and administrative office heads to remind them of their responsibility for inventory. However, providing reminders does not constitute monitoring. Sending out information will not inform DOE whether required inventory responsibilities are actually being carried out.

In the absence of both a centralized inventory and centralized monitoring of sites' decentralized inventory records and controls, DOE's inventory records remain inaccurate and incomplete, and a significant portion of sites' hardware could not be accounted for, including desktops, laptops, and tablets. As noted, we conducted inventory inspections at nine sampled sites. We limited our review to computer hardware that was less than or equal to six years old. Based on our inspections at nine sites, DOE did not properly account for 4,993 out of 14,329, pieces of computer hardware, 34.9 percent. Of those 4,993 items not properly accounted for, 1,816 were not physically accounted for, and 3,541 were not included on site inventory records, as detailed in the Appendix.

In response to our preliminary findings, DOE disagreed and stated that our inventory inspection methodology was flawed because we relied, in part, on AMS records. DOE maintained, as it did during the prior audit, that we should not use AMS records for inventory purposes. Rather, DOE stated that we should review only site inventory records. However, were we to rely on the local inventory records, we would have no way to know what inventory was supposed to be on hand, but rather would see only what was counted at a particular point in time. Moreover, as previously noted, DOE uploads inventory information for computer hardware, except for Apple tablets, into AMS and instructs schools to use reports generated from AMS, as the basis for creating and updating their inventory records. Accordingly, the computer hardware that was recorded in AMS was also generally recorded in site inventory records. Of the 11,277 pieces of computer hardware that were recorded in AMS, 9,021 pieces, 80 percent, were also recorded in site inventory records.

In addition, DOE stated that our methodology was flawed because we included computer hardware that was ordered but not yet delivered to sites when we conducted our inspections. DOE also criticized our methodology because, they contended we included computer hardware that was not purchased under the Lenovo, Apple, and CDW Government contracts and we included computer hardware that was the responsibility of other co-located sites such as School Food and School Safety. Subsequent to the draft issuance, DOE provided us with documentation in support of those contentions and so adjusted our numbers accordingly.

Finally, DOE maintained that computer hardware may not be accounted for because sites may not always properly dispose of computer hardware and report it in AMS. However, in presenting this one possible explanation for why its records are inaccurate, DOE acknowledges that its staff do not always follow protocols and it does not provide any additional information on how it would be possible to account for missing computers based on its current inventory system.

**Previous Finding:** “Computers Not Found at Designated Locations.”

The previous audit found that 727 computers were missing from nine sampled locations. DOE could not locate them, even after trying for months. The missing 727 computers represented nine percent of the computers that should have been on hand at the sampled locations, according to AMS at the time of the previous audit.

***Previous Recommendation #4:*** “DOE should determine the physical locations of the 1,817 computers (1,090 computers from discrepancies identified between AMS lists and the 727 computers) that could not be identified during our physical inventory counts.”

***Previous DOE Response:*** “The Comptroller was unable to identify these 1,090 computers because they were using AMS data to locate equipment against DOE’s recommendation. Repeatedly the DOE explained to the Comptroller’s team that AMS is not designed to serve as an inventory system. Rather, the system, populated as part of the purchase process by the DOE’s vendors, was designed to facilitate repairs to equipment under warranty. There is therefore no proof that the 1,090 pieces of equipment are unaccounted for, as no testing of such was completed.

In the process of updating its inventory records and practices, the DOE will flag for divisions and schools the 727 pieces of equipment that the Comptroller was unable to identify during the testing phase of the audit.”

**Current Status:** PARTIALLY IMPLEMENTED

In total, DOE accounted for only 234 of 1,817 missing pieces of computer hardware, or 12.9 percent of the total. DOE’s Inventory SOP Section 3.9 states that if it appears that an item is missing, the site Inventory Officer is responsible for making every effort to locate the item in question. Nevertheless, DOE reported that it did not attempt to locate 1,090 pieces of unaccounted-for computer hardware which were primarily recorded in AMS as “Asset Location Unknown,” relying on the *non sequitur* that AMS is not an inventory system. However, the issue is not whether AMS *is* an inventory system, but rather whether DOE *has* an inventory system that records costly computer hardware purchases and updates the location of computer hardware, as necessary, so that it is possible to know whether every item purchased is being appropriately used and accounted for.

As for the remaining 727 pieces of missing hardware, DOE reported that it had located 353 pieces at eight sites. However, when we attempted to inspect 188 pieces of that hardware at two of the sites, DOE could only account for 69 items, or 36.7 percent.

We attempted to inspect 162 pieces of equipment at an administrative site. Of those, DOE could only account for 69 items. Further, on April 28, 2017, we asked to inspect 26 pieces of computer hardware that DOE had reported as located at a single school. To date, DOE has not allowed us access to that school so that we could inspect that equipment.

At our exit conference on June 6, 2017, DOE stated that it located the 353 pieces of equipment at a point of time in 2015, and that computer hardware *may* have been relocated since that time. DOE also stated that it is still searching for this computer hardware. Further, with regard to the 26 pieces of computer hardware that DOE reported as located at a single school, DOE stated that this school closed and that computer hardware may have been transferred to other sites.

However, the DOE Inventory SOP Section 2.5 states that

There should be continuous updating of your inventory record, as changes occur (e.g., new inventory is purchased, inventory is distributed to staff, inventory is loaned to an individual or department, inventory is disposed of, etc.). . . . Inventory records . . . should be printed periodically as working copies. The most recent document should be kept on file. The final version of the year, produced immediately prior to the annual inventory deadline, must be printed and then signed and dated by the site administrator, confirming its accuracy. This version must be maintained on file for a period of six years.

Further, the DOE Inventory SOP Section 3.12 states that

When a project comes to an end or a site is closed, the site administrator has the responsibility for conducting a final inventory. This type of inventory should include furniture, computer equipment, etc. These records should be maintained at the respective site (provided the site will continue to be used by the DOE) as well as the site where the items are being relocated. An e-mail advising the FSC that a final inventory has been taken and is available at the site should be forwarded soon after the project ending or site closure. The site administrator will also have to call the DOE Service Desk . . . and provide the information on where the computer equipment is being relocated to.

Consequently, DOE should have inventory records that would allow it to determine the current location of the 353 pieces of computer hardware.

**Previous Finding:** DOE has “Lack of Oversight over Tablet Computers”

The previous audit found that DOE spent \$26.9 million on iPads during Fiscal Year 2012 and Fiscal Year 2013 and did not maintain a proper inventory of those purchases. Although DOE’s Inventory SOP required that such equipment be inventoried, the prior audit found that two of eight sampled schools did not list iPads in their inventories. By failing to maintain a proper inventory of the iPads it purchased, DOE exposed itself to potential theft and misuse of its equipment.

***Previous Recommendation #5:*** “DOE should conduct a system-wide inventory count and reconciliation of DOE data to determine if other computers are not properly accounted for.”

***Previous DOE Response:*** “We respectfully disagree. The SOP states that central office and schools are responsible for conducting annual inventory. Local administrators maintaining inventories should do so in a method that matches devices and patterns of use at their sites. This practice supports accountability without burdening schools and central staffers. This aligns with the DOE’s overarching goal to prevent administrative compliance from taking time away from the classroom. The collective of these inventories accounts for equipment system-wide. We will issue annual reminders to principals and administrative office heads to remind them of this responsibility.”

**Current Status:** NOT IMPLEMENTED

DOE did not conduct a system-wide inventory count and reconciliation of DOE data to determine whether other computers were not properly accounted for. DOE officials represented that based on previous experience, DOE concluded that it was not cost-effective or practical to perform such a count. DOE explained that Dell had conducted a system-wide inventory count of DOE's computer hardware in July 2004. DOE told us that it took Dell more than a year to complete this count, and afterwards it was still not able to produce accurate and complete inventory records.

However, DOE should not base its decision to conduct a system-wide inventory count on an initiative undertaken 13 years ago. DOE should conduct a system-wide inventory count, reconcile results with inventory records, investigate discrepancies and identify patterns of repeated losses and reconciliation problems. Doing so will help DOE strengthen controls to prevent the loss of additional computer hardware and enable it to detect and take appropriate action to address any instances of such equipment's being lost, stolen, or misappropriated.

***Previous Recommendation #6:*** "DOE should refer evidence of misconduct in connection with the purchase, receipt and usage of computer equipment to appropriate authorities, including law enforcement in the case of evidence of potential criminal activity."

***Previous DOE Response:*** "We agree. The DOE's current SOP on inventory requires administrative offices and schools to report missing equipment to the appropriate authorities, including the New York Police Department."

**Current Status:** NOT IMPLEMENTED

Although DOE reported that it did not or could not locate 1,464 of 1,817 pieces of unaccounted-for computer hardware, it did not implement the recommendation to refer evidence of misconduct in connection with the purchase, receipt, and usage of any items of computer equipment to appropriate authorities.

DOE's Inventory SOP Section 3.8 states that Inventory Officers must immediately "[i]nvestigate and report any *missing* or stolen items per instructions in section 3.9." [Emphasis added.] Further, Section 3.9 states that the Inventory Officers must notify the principal, site administrator, or department head, and DIIT that computer hardware is missing or stolen. For certain laptops that have computer tracking software installed, Inventory Officers must contact the vendor to activate this software. Inventory Officers must also file a police report and send a copy of it to the Special Commissioner of Investigation for the New York City School District. In addition, school Inventory Officers must complete a DOE On-Line Occurrence Report and report missing or stolen computer hardware to their School Safety Agent. Afterwards, the School Safety Agent will report the incident to the New York City Police Department School Safety Division.

However, as previously reported, DOE did not attempt to locate 1,090 pieces of computer hardware that were primarily recorded in AMS as "Asset Location Unknown." Of the remaining 727 pieces of computer hardware that were not accounted for, 643 pieces were attributable to a single administrative site and the remaining 84 pieces were attributable to seven schools. Of the 643 pieces attributable to the administrative site, DOE reported that it had located 282 pieces of computer hardware. For the remaining 361 pieces, which DOE reported that it could not locate, we asked for documentation showing it had referred evidence of misconduct to appropriate authorities. In response, DOE stated that it

is in the process of doing an inventory update of all of our administrative sites. Subsequent to necessary follow ups and reconciliations, the DOE expects to have an updated inventory assessment by the end of June 2017. In consultation with necessary stakeholders the DOE will then identify what next steps are necessary with regards to equipment identified by the Comptroller as unaccounted for.

More than three years ago, by March 2014, we informed DOE schools that equipment was missing. Further, by September 2014, we informed the DOE administrative site that equipment was missing. At that time, DOE should have taken appropriate steps to determine whether items were missing and reported evidence of those missing items and any evidence of misconduct to appropriate authorities as required, so that those authorities could conduct investigations and take necessary action in a timely manner.

Further, out of 84 missing items attributable to seven schools, DOE reported that 13 pieces of hardware were still unaccounted-for. In addition, DOE reported that 14 missing pieces of computer hardware had been stolen, for which police reports were filed. We asked for documentation regarding these 27 items, showing that DOE had referred evidence of misconduct to appropriate authorities. However, DOE did not provide us with copies of police reports, DOE On-Line Occurrence Reports, or other documentation to indicate that it had made any such referrals.

**Previous Finding:** DOE has “Underutilized Computer Hardware at Schools”.

The previous audit found new and unopened laptops in storage at sampled schools. School officials could not explain why those items, intended for educational purposes, were not being used. DOE’s Inventory SOP requires that “storage sites be reviewed periodically to make sure that all supplies and equipment are being fully utilized and items are neither over stocked nor under stocked.” However, DOE failed to implement its own procedures to ensure computer hardware was fully utilized, and that unnecessary duplicative purchases were not made. Consequently, City resources have been wasted, and DOE failed to obtain the educational benefits intended by the purchases.

***Previous Recommendation #7:*** “DOE should instruct schools to identify unused computer hardware in their inventory records.”

***Previous DOE Response:*** “The SOP currently instructs schools to determine equipment for which they have no further use. At schools, equipment is placed in and out of service based on the needs of the school. To update an inventory system every time this happens is an unnecessary burden to schools especially given the volume of technology used in schools. As noted in the Report, unused equipment was not significant, and therefore does not warrant such an action.”

**Current Status:** NOT IMPLEMENTED

DOE did not instruct schools to identify unused computer hardware in their inventory records and transfer it to locations where it is needed. DOE continues to maintain that asking schools to identify such unused hardware is an overly burdensome requirement. The DOE Inventory SOP Section 3.11 suggests that

the contents of the inventory database and storage sites [should be] be reviewed periodically to make sure that all supplies and equipment are being fully utilized and that items are neither over nor under stocked.

However, the DOE Inventory SOP does not instruct schools to identify unused computer hardware in their inventory records.

**Previous Recommendation #8:** “DOE should transfer unused hardware to locations where it is needed.”

**Previous DOE Response:** “We agree. When equipment is no longer needed by a school, the DOE transfers hardware to locations where it is needed.”

**Current Status:** PARTIALLY IMPLEMENTED

DOE enables sites to advertise unused pieces of computer hardware items on the “Advertised Items” page of the DOE website. Those items may be transferred to other DOE sites or salvage vendors.

However, based on our inventory inspections conducted at nine sampled sites, five sites had 720 pieces of unused computer hardware and did not advertise on DOE’s website that those computers were available to be transferred to locations where needed as detailed in the Appendix. In one instance, a school had 206 unused computers, including 185 Apple iPads and MacBooks that were in unopened boxes. It did not offer to transfer them to other DOE locations. A school official informed us that the school recently received this computer hardware and that it planned to use it.

DOE maintained that sites keep excess stock on hand for deployment, short-term loans while computer hardware is being repaired, and to replace computer hardware that is broken, lost, or stolen. We asked that DOE provide us written guidance on appropriate stock levels and purchasing records to show how long computer hardware has been in storage. To date, DOE has not provided us with requested documentation. In the absence of this information, we cannot determine whether it is reasonable for these five sites to have 720 pieces of unused pieces of computer hardware and whether and to what extent computer hardware should be transferred to other sites.

## New Issue

### **DOE Did Not Provide Sites Sufficient Guidance and Support to Ensure Compliance with Its Inventory Guidelines**

DOE informed us that to enable its sites to carry out their inventory responsibilities and comply with its Inventory SOP, DOE provides the sites with training and inventory record templates, allows them to export AMS data which they can use to create and update their inventory records, and allows them to engage PCS vendors to provide ala carte inventory services. However, during our interviews with DOE staff at nine sampled sites, DOE staff said they were not aware of and did not receive access to training, AMS data, and PCS vendor inventory services. Staff also said that they lacked the resources to properly maintain inventory records and safeguard computer hardware as detailed below. In fact, two school Inventory Officers informed us that, because they lacked resources, they had students assist them in maintaining and updating inventory records.

- **Training**

DOE informed us that, during Fiscal Years 2015 and 2016, OAG conducted a total of 130 training sessions, including 72 in Fiscal Year 2015 and 58 in Fiscal Year 2016. These training sessions were provided to schools and FSCs and included instruction in inventory controls. However, OAG did not provide training during this period to administrative sites. Further, during our interviews with staff responsible for inventory at nine sampled sites, staff informed us that they did not receive training.

- **AMS Data**

Based on our review of DOE's Inventory SOP, DOE did not provide site Inventory Officers with access to AMS data. DOE's Inventory SOP Section 3.2 states that "[s]chool Principals have access to this system and can run a report of their computer-related equipment at any time" and that "central and field offices do not have access to AMS."

DOE's Inventory SOP Section 1.2 states that the site Inventory Officer is

the individual selected by the site administrator . . . whose major responsibility is to coordinate all aspects of inventory control including, but not limited to the removal of obsolete equipment (except for obsolete computer equipment), supervising and handling all records related to the physical inventory of all supplies, materials, textbooks, etc., and overseeing the receipt and removal of inventoried items.

Further, Section 2.1 states that

While the primary responsibility for maintaining inventory records rests with the site administrator, he or she may designate appropriate staff to act as the Inventory Officer (IO). The IO is to prepare and maintain inventory records throughout the year.

Therefore, it is essential that DOE grant AMS access to all school and administrative site Inventory Officers.

- **PCS Vendor Services**

PCS vendor contracts offer a range of ala carte inventory services, which include inventorying computer hardware. However, based on our interviews with staff responsible for maintaining inventory records at nine sampled sites, they may not be aware that these services are available to them.

# RECOMMENDATIONS

To address the issues that were identified in the earlier audit that we found in the follow-up audit still exist, we recommend that DOE should:

1. Have a centralized inventory system for computer hardware that includes purchase and delivery information as well as current location. DOE should explore using its existing AMS system for this purpose.

**DOE Response:** “The DOE is planning some changes to its help desk and device management strategies which will include:

1. DOE is implementing a new help desk incident management platform, which includes the functionality that AMS was designed for – connecting the physical building of a computer asset to a person experiencing a technical issue for the purposes of providing technical support. As a result, the DOE intends to retire AMS as we migrate to the new platform;
2. The DOE is exploring cost effective Device Management (DM) software solutions to enable identification and management devices that connect to its network to improve how devices are managed and supported;
3. The work to transition to a new system has already started with the DOE currently putting a device management software solution on Windows devices (both new and old ones) that will enable devices on the network to be identified and managed; and
4. The DOE is actively evaluating similar tools for Apple and Google devices.

The DOE will also explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner. After the completion of deploying the appropriate DM software solutions for each device, the DOE will have updated information on computer assets through network-discovery and active management. . . .

The DOE does not agree with the recommendation due to the change in the asset management strategy outlined above.

The suggestion from the Comptroller to adapt AMS to be an inventory system is too far removed from its original intention and therefore it is not implementable. As noted above, the DOE is looking to retire AMS and is implementing a modern help desk incident management system. The DOE is also exploring the use of cost effective DM software solutions that will enable identification and management of all devices that connect to the DOE’s network.”

**Auditor Comment:** Contrary to DOE’s assertions, AMS can be used to track computer inventory and using AMS as an inventory system is not “too far removed from its original intention.” As previously stated, AMS already captures key data that DOE’s Inventory SOP requires sites to record in their inventory records. Furthermore, DOE instructs schools to use AMS data as the basis for creating and updating their inventory records and developed a web interface for AMS, known as the Asset Inventory Tool, to allow them to do so.

During the audit, DOE did not inform us that it intends to retire AMS. However, this change is central to portions of its audit response. DOE states that it has started to use a new device management system for Windows devices and “is actively evaluating similar tools for Apple and Google devices.” However, the device management system as described is not a viable inventory tool because it can only “enable devices on the network to be identified and managed” and therefore, will not account for computer hardware that is not connected to DOE’s network.

2. Revise its Standard Operating Procedures to include the following:
  - Ensure that all computer hardware purchases, including tablets and netbooks, are included in AMS;
  - Require all schools and administrative sites to conduct annual inventory counts and submit the results to a central administrative unit charged with tracking all computer inventory and maintaining a comprehensive and accurate inventory of all DOE computer hardware; and
  - Reconcile the results of inventory counts with the information in AMS to ensure information in AMS is accurate and up to date.

**DOE Response:** “The DOE partially agrees with this recommendation.

Due to the changes in strategy outlined above, the DOE will be retiring AMS. It should be noted that the reference to netbooks is outdated since that form factor is no longer in use and is not available for procurement within the DOE.

As we responded to Recommendation 1 above, the DOE will investigate potential tools/systems to strengthen inventory practices. If the DOE implements changes to its inventory practices, system and/or protocols, changes to the DOE’s Standard Operating Procedures (SOP) will be made as necessary.”

**Auditor Comment:** As noted, during the course of the audit, DOE did not inform us that it intended to retire AMS. Further, in its response, DOE did not indicate *when* it will retire AMS and select and implement a new device management system or other “tools/systems to strengthen inventory practices.” Therefore, we reiterate that DOE should revise its Standard Operating Procedures to include the above-detailed recommended changes. Implementing these changes will enable DOE to migrate accurate and up-to-date inventory information to new systems in the future.

Further, DOE should make the same above-detailed recommended changes when new systems are implemented in the future.

3. Routinely monitor recordkeeping procedures for computer hardware at DOE sites to ensure that accurate and complete inventories are maintained.

**DOE Response:** “The DOE agrees with this recommendation inasmuch as it is a reflection of current practice.

Since the Comptroller’s 2014 audit, the DOE has implemented a number of changes to its processes both at schools and at administrative sites to support the inventory process.

For schools the DOE has:

- Updated the Fiscal Close calendar to include inventory and certification deadlines;
- Clear policy reminders and timelines that went out in the DOE’s Principal Weekly and Field Support for Schools newsletters; and
- Communicated inventory certification completion lists to the Field Support Centers (FSC) who communicated and worked with schools to support this work.

At the administrative sites, the DOE has:

- Required every office to:
  - Have an Inventory Officer (Head of Office or Designee); and
  - Complete an annual inventory and update that inventory as equipment and personnel change.

Implemented key practices:

- Review current inventory process and documents to ensure they are up to date; and
- Complete annual inventory by mid-late May.
- We provided administrative sites with inventory guidance:
  - Review of the full inventory SOP;
  - “Lunch and Learn” sessions on DOE’s SOPs, including the inventory SOP; and
  - Clear policy reminders that went out in P-Weekly.

Starting in Fiscal Year 2017, DOE divisions have been asked to provide certification statements for their offices as well. All certification have been submitted for FY 17.”

**Auditor Comment:** Contrary to DOE’s assertion, we did not find that it is DOE’s current practice to routinely monitor recordkeeping procedures for computer hardware at DOE sites to ensure that accurate and complete inventories are maintained. DOE Inventory SOP requirements, reminders of those requirements, and guidance do not constitute monitoring procedures to ensure compliance with requirements.

Furthermore, DOE did not effectively oversee schools to ensure that they submitted *Annual Inventory Statements* via FAMIS which certified that inventory counts were completed. Based on our review of FAMIS certification data for School Years 2015 through 2017, FSCs did not ensure that schools certified that inventory counts were performed at all or on time as detailed in the table below.

Year	Submitted on time		Submitted late		Did not Submit		Total	
	#	%	#	%	#	%	#	%
2015	74	4.4%	1191	70.6%	423	25.1%	1688	100.0%
2016	64	N/A	66	N/A	N/A	N/A	N/A	N/A
2017	381	24.5%	1018	65.5%	155	10.0%	1554	100.0%

Moreover, during School Years 2015 and 2016, DOE did not monitor administrative sites’ compliance with inventory certification requirements. In its response, DOE stated that it asked administrative sites to submit *Annual Inventory Statements* for School Year 2017, and that “[a]ll certification[s] have been submitted.” However, DOE did not provide us with those certifications.

4. Determine the physical locations of 1,583 of the 1,817 computers that remain unaccounted-for (1,090 computers from discrepancies identified between AMS lists and 493 of the 727 computers that could not be identified during our physical inventory counts).

**DOE Response:** “The DOE partially agrees with this recommendation.

With regards to the 1,090 assets the Comptroller points to in the recommendation, the DOE would like to reiterate that the assets were unidentified because in 2014 the Comptroller was using AMS data to locate equipment against DOE’s recommendation. There was no testing done during this current audit to determine the location of the 1,090 assets and therefore no proof they are unaccounted for.

As for the 493 assets, the inventory listings provided to support the 282 items identified subsequent to the 2014 audit were collected in 2015 and the testing by the Comptroller for this audit was done in 2017. The DOE informed the Comptroller that an inventory update is currently being coordinated through the divisional Chiefs of Staff. This is inclusive of all administrative sites. Subsequent to necessary follow ups and reconciliations, the DOE, in consultation with necessary stakeholders, will identify what next steps are necessary with regards to equipment identified by the Comptroller as unaccounted for.”

**Auditor Comment:** With regard to the 1,090 pieces of computer hardware that were primarily recorded in AMS as “Asset Location Unknown,” we reiterate that AMS is a record of computer hardware purchasing data. The OEM vendors

supply DOE with inventory information for all the computer hardware that DOE purchases (except for Apple tablets). DOE, in turn, uploads this information into AMS. In its Inventory SOP Section 3.2, DOE acknowledges that AMS “is a database containing records of all computer-related equipment . . . purchased via FAMIS.” Furthermore, DOE instructs sites to use AMS data as the basis for creating and updating their inventory records. Therefore, it is wholly reasonable and appropriate to use AMS data, in part, as a basis for our inventory testing.

While DOE maintains that it can account for its computer hardware inventory, it refused to identify the specific locations of items that the auditors could not find. This failure to provide the auditors with the current locations of this equipment belies DOE’s claims that its current inventory practices are adequate and that it can “account[s] for equipment system-wide.” DOE attempts to deflect its responsibility to properly account for computer hardware by stating that “[t]here was no testing done during this current audit to determine the location of the 1,090 assets and therefore no proof they are unaccounted for.” However, it is the responsibility of DOE, and not the Comptroller’s Office, to account for those 1,090 pieces of computer hardware. DOE was informed that these assets were not accounted for in November 2013. Since that time, more than three and a half years ago, DOE did not attempt to locate those assets and now states that it is incumbent on the audit team to prove they remain unaccounted-for.

With regard to the remaining 493 pieces of computer hardware, DOE essentially responded that it accounted for 282 pieces of computer hardware in 2015 but did not know their current location. However, DOE should have inventory records that would allow it to determine the current location of those assets. As previously stated, the DOE Inventory SOP Section 2.5 states that

There should be continuous updating of your inventory record, as changes occur. . . . Inventory records . . . should be printed periodically as working copies. The most recent document should be kept on file. The final version of the year . . . must be maintained on file for a period of six years.

Further, the DOE Inventory SOP Section 3.12 states that

When a project comes to an end or a site is closed, the site administrator has the responsibility for conducting a final inventory. . . . These records should be maintained at the respective site (provided the site will continue to be used by the DOE) as well as the site where the items are being relocated. . . . The site administrator will also have to call the DOE Service Desk . . . and provide the information on where the computer equipment is being relocated to.

5. Conduct a system-wide inventory count and reconciliation of DOE data to determine if other computers are not properly accounted for.

**DOE Response:** “The DOE continues to disagree with this recommendation.

Currently, local administrators maintaining inventories are the ones who determine what inventory methods match the devices and use patterns at their sites. These practices guide how and when inventories are updated which supports accountability without burdening schools and administrative staffers. The collective of these inventories accounts for equipment purchased system-wide. The DOE's methodology aligns with not having administrative compliance take time away from the classroom."

**Auditor Comment:** A "collective of these [decentralized] inventories" is not a substitute for a system-wide inventory count and reconciliation of DOE data to determine if other computers are not properly accounted for. Unless DOE reconciles its purchases with its current inventories, it cannot properly account for its computer hardware. Moreover, as the audit found, DOE's inventory records remain inaccurate and incomplete and DOE computer hardware is at risk of being lost, stolen, and wasted. Based on our inspections at nine sampled sites (eight schools and one administrative site), DOE's decentralized inventory records are inaccurate and incomplete, and a significant portion of sites' hardware could not be accounted for, including desktops, laptops, and tablets. Specifically, DOE failed to properly account for 4,993 out of 14,329 pieces of computer hardware, 34.9 percent, at the nine sampled sites. Of these 4,993 items, we looked for but did not observe 1,816 pieces of computer hardware during our physical inspections and/or the sites did not include 3,541 pieces of computer hardware in their inventory records, as detailed in the Appendix.

6. Refer evidence of misconduct in connection with the purchase, receipt and usage of computer equipment to appropriate authorities, including law enforcement in the case of evidence of potential criminal activity.

**DOE Response:** "The DOE agrees with this recommendation inasmuch as it is the DOE's current practice. The DOE's SOP on inventory requires administrative offices and schools to report missing equipment to the appropriate authorities, including the New York Police Department."

**Auditor Comment:** Contrary to DOE's assertion, it is not DOE's current practice to report missing equipment to the appropriate authorities, including the New York Police Department, as required by its Inventory SOP. As previously detailed in the report, although DOE acknowledged that it looked for but could not locate 374 pieces of unaccounted-for computer hardware (361 pieces attributable to an administrative site and 13 pieces attributable to schools), it did not refer evidence of misconduct to appropriate authorities.

Moreover, although DOE reported that 14 pieces of unaccounted-for computer hardware were stolen and that police reports were filed, DOE did not provide us with copies of those police reports or other appropriate referrals.

7. Instruct administrative sites and schools to identify unused computer hardware in their inventory records.

**DOE Response:** "The DOE disagrees with this recommendation because it does not align with the DOE's asset needs.

For example, at the administrative site the Comptroller selected for audit, the audit team identified 316 items of computer hardware as 'not in use'. As

discussed on several occasions with the auditors, we believe this is misleading. This site includes equipment ordered by several Divisions and offices, all but one of which were not included in the auditors' review. The office that was audited is a team that purchases and assigns Assistive Technology (AT) devices to students on a dedicated basis pursuant to their Individualized Education Program (IEP), as well as to a small number of DOE staff who assess the AT needs of these students as part of the IEP process. In order to ensure that students are assessed and then assigned AT equipment as quickly as possible, the DOE purchases a 60 – 90 day inventory of the most frequently mandated equipment. This equipment, which turns over regularly, is held in a central inventory until it is assigned to a student. This activity is tracked, along with a range of relevant data, in a separate database, unrelated to AMS. Thus, the auditors' assertion that these devices, which represent a very large proportion of the 'not in use' categorization for the audited administrative site, is highly misleading given that having these items in inventory is critical to the support this office provides citywide to DOE students' with IEPs.

As stated in our response to a similar recommendation in the 2014 audit, at schools equipment is placed in and out of service based on the needs of its students. To update an inventory system every time this happens is an unnecessary burden to schools.”

**Auditor Comment:** We agree that sites need to maintain a reasonable amount of computer hardware in stock. However, we do not agree that it is an “unnecessary burden” for sites to identify such unused computer hardware in their inventory records. Moreover, DOE’s position is contrary to its own Inventory SOP. Specifically, the DOE Inventory SOP Section 2.5 states that

There should be continuous updating of your inventory record, as changes occur (e.g., new inventory is purchased, inventory is distributed to staff, inventory is loaned to an individual or department, inventory is disposed of, etc.).

8. Transfer unused hardware to locations where it is needed.

**DOE Response:** “The DOE agrees with this recommendation. When equipment is no longer needed by a school – due, for example, to school closures, school mergers/consolidations, and school or office relocations – the DOE transfers hardware to new locations where it is needed. However, there is a difference between equipment that is *not in use* and equipment that is *not needed*. Auditors would need to ask the site administrators about what the plans were for equipment not in use before attempting to classify it as not needed.

When the DOE asked the Comptroller if they asked requisite follow up questions at all sites where they identified equipment not in use, they told the DOE that they did not. Without asking site administrators what the plans were for unused equipment, one cannot make an inference that equipment is not needed.

As addressed in our response to recommendation 7, administrative sites' functions might necessitate they keep an inventory of equipment on hand to provide to students in an expeditious manner. Schools may feel that they need

to have a number of assets on hand as replacements so as to not disrupt education to students. Finally, a school register changes from year-to-year. This might mean that a site administrator decides that it is a waste of resources to transfer equipment it will likely need in short order.”

**Auditor Comment:** We agree that there is a difference between computer hardware that is “not in use” and computer hardware that is “not needed.” Contrary to DOE’s assertion, we did ask follow-up questions about equipment that was not in use. However, DOE did not provide documentation that would allow us to independently evaluate whether the number of unused pieces of computer hardware was reasonable and appropriate.

Specifically, we requested that DOE provide us “any written guidance on how much computer hardware sites should keep in stock” and “purchasing information (dates, amounts, delivery information, etc...) . . . so that we may consider how long equipment was held in storage.” DOE stated that “as far as we know there is no formal standard or procedure” on how much computer hardware sites should keep in stock. Furthermore, DOE did not provide us with requested purchasing information.

To address newly-identified issues we recommend that DOE should:

9. Ensure that OAG conducts inventory procedures as part of its annual field audits of administrative sites and schools.

**DOE Response:** “The DOE disagrees with this recommendation. OAG’s audit areas are based on risk assessments and OAG does not believe it is prudent at this time to change its selection criteria by adding inventory. OAG provides other supports to the DOE concerning inventory including, but not limited to, providing the trainings mentioned in the Report.”

**Auditor Comment:** Based on the results of the inventory inspections conducted in both the prior and current audits, we do not understand why “OAG does not believe it is prudent” to conduct inventory procedures as part of its annual field audits of administrative sites and schools. According to FAMIS purchasing records, DOE spent \$53.7 million and \$66.6 million on computer hardware during Fiscal Years 2015 and 2016, respectively. As previously discussed, DOE failed to properly account for 4,993 out of 14,329 pieces of computer hardware, 34.9 percent, at the nine sampled sites. Of these 4,993 items, we looked for but did not observe 1,816 pieces of computer hardware during our physical inspections and/or the sites did not include 3,541 pieces of computer hardware in their inventory records, as detailed in the Appendix.

10. Label and indelibly mark or otherwise permanently tag all computer hardware, including tablets, with the words “Property of the Department of Education” and the site location.

**DOE Response:** “The DOE agrees with this recommendation. We will evaluate the cost effectiveness of implementing this recommendation.”

**Auditor Comment:** As this is required by DOE’s Inventory SOP, we do not understand why DOE needs to “evaluate the cost effectiveness of implementing this recommendation.” The DOE Inventory SOP Section 3.2 states that

You can mark items using electronic pencils or invisible markers that are visible only under special lighting. Every piece of equipment should be labeled and/or indelibly marked or otherwise permanently tagged with the words "Property of the Department of Education". . . . In some special situations, a vendor may not be able to engrave a piece of equipment. If so, it is suggested that the site purchase an engraving tool available at most hardware stores or acquire metallic identification tags.

11. Require all administrative sites to submit an *Annual Inventory Statement* via FAMIS which certifies that an annual inventory count was performed.

**DOE Response:** "The DOE agrees with this recommendation. As mentioned in response to recommendation three, administrative site certifications were collected in FY 17 and the DOE will continue to collect them annually moving forward."

**Auditor Comment:** Although DOE reported that it "asked" for and collected *Annual Inventory Statements* from all administrative sites, DOE did not revise its Inventory SOP to require all administrative sites to submit an *Annual Inventory Statement* via FAMIS which certifies that an annual inventory count was performed. Further, DOE did not provide us with administrative sites' certifications or specify whether they were collected via FAMIS or manually.

12. Ensure that administrative sites and schools submit *Annual Inventory Statements* within 30 days of completing the inventory and before the annual due date, currently in April.

**DOE Response:** "The DOE agrees with the part of this recommendation that addresses ensuring that sites submit Annual Inventory Statements. However, the timeline provided by the Comptroller does not align with the DOE's needs.

The DOE's focus is on certifications being submitted and the deadline is used to identify sites where additional follow up is required. The DOE knows the competing priorities facing schools as the year ends. As illustrated below, the DOE's approach has a proven record of success. In addition to the 100% certification for administrative sites shared in response to recommendation two, as of June 20, 2017, 91% of schools have certified their inventories. That is almost three times as many schools as compared to immediately following the April 30 SOP deadline. This jump is directly attributable to the DOE's strategy which allows FSC staff to target support directly to schools that were unable to certify by the April deadline.

Please see response to recommendation 11 for additional information on the administrative sites."

**Auditor Comment:** DOE's response is contrary to its own Inventory SOP. Specifically, DOE's Inventory SOP Section 2.3 states that "[w]ithin 30 days of completing the inventory yet before the annual due date in April, schools must submit an *Annual Inventory Statement* via FAMIS." Section 2.3 further states that Field Support Centers (FSC) "will monitor submission of the statement to ensure that all schools have submitted a completed form **by the deadline.**" [Emphasis added.]

If DOE's own timeline "does not align with the DOE's needs," it should revise the timeline specified in its Inventory SOP to ensure that inventory counts are consistently completed by prescribed deadlines and that inventory counts are completed every 12 months.

Contrary to DOE's assertion, its current practice does not have a "proven record of success." DOE only "asked" administrative sites to submit Annual Inventory Statements in 2017. Further, although DOE reported that all administrative sites submitted inventory certifications, it did not provide us with documentation to support this. In addition, based on the results of our review of FAMIS certification data for School Years 2015 through 2017, schools did not consistently submit *Annual Inventory Statements* as required.

13. Revise its Inventory SOP to specify how often Inventory Officers for administrative sites and schools should be rotated.

**DOE Response:** Please see response to Recommendation #14.

14. Ensure that administrative sites and schools rotate Inventory Officers periodically.

**DOE Response:** "The DOE disagrees with these recommendations.

The guidance provided in the SOP regarding rotation of inventory officers has been intentionally crafted to allow site administrators to determine what is best. Schools with small administrative staff might not have the ability to rotate inventory officers. Edits to the SOP recommended by the Comptroller are too prescriptive for an organization as diverse as the DOE."

**Auditor Comment:** DOE's response is inconsistent with its own Inventory SOP. Specifically, DOE's Inventory SOP Sections 1.2, 2.1, and 4.1 all state that the Inventory Officer should be rotated for internal control purposes. The DOE Inventory SOP Section 1.2 states that the Inventory Officer is responsible for coordinating "all aspects of inventory control including, but not limited to the removal of obsolete equipment (except for obsolete computer equipment), supervising and handling all records related to the physical inventory of all supplies, materials, textbooks, etc., and overseeing the receipt and removal of inventoried items." This position should be rotated to prevent or detect irregularities in inventory records due to errors or fraud.

Therefore, we reiterate that DOE should revise its Inventory SOP to specify how often Inventory Officers for administrative sites and schools should be rotated and ensure that administrative sites and schools rotate Inventory Officers periodically. If DOE feels that smaller sites are not able to rotate Inventory Officers periodically, it should revise its Inventory SOP specify compensating controls for those sites.

15. Determine the physical locations of the 1,816 pieces of unaccounted-for computer hardware that could not be identified during our inventory inspections conducted at nine sampled sites as part of this audit.

**DOE Response:** "The DOE does not believe that the Comptroller conducted sufficient tests and therefore declines to implement this recommendation. The data files from the Comptroller that the DOE would need to rely on to identify

unaccounted equipment are insufficient and not all information was gathered to validate the findings.

During the course of the Comptroller sharing findings with the DOE, the DOE asked the Comptroller what follow up questions were asked of principals. The Comptroller informed the DOE that they did not consistently ask if equipment was not in use, what was planned for said equipment. Additionally, asset identifying information was relayed back to the DOE with errors and/or in an incomplete manner, which limits the DOE's ability to commit to implementing the recommendation as written. Finally, despite the DOE requesting that the Comptroller provide data to the DOE in a manner that allowed them to follow up as necessary, the data provided combined different audit tests and did not differentiate where the information was gathered from. For the reasons outlined above, the DOE does not feel comfortable committing to the number of assets the Comptroller cited and therefore is not able to agree with this recommendation."

**Auditor Comment:** As previously stated, contrary to DOE's assertion, we did ask follow-up questions about equipment that was not in use. However, DOE did not provide documentation that would allow us to independently evaluate whether the number of unused pieces of computer hardware was reasonable and appropriate.

Specifically, we requested that DOE provide us "any written guidance on how much computer hardware sites should keep in stock" and "purchasing information (dates, amounts, delivery information, etc...) . . . so that we may consider how long equipment was held in storage." DOE stated that "as far as we know there is no formal standard or procedure" on how much computer hardware sites should keep in stock. Furthermore, DOE did not provide us with requested purchasing information.

Moreover, DOE is incorrect in its assertion that it is limited in its "ability to commit to implementing the recommendation as written" because asset identifying information contained errors and/or was incomplete. For sampled sites, we compiled a list of computer hardware that should be physically present, based on AMS inventory lists, site inventory lists, and auditor observations. We conducted physical inspections of these sites to determine whether computer hardware was accounted for. Subsequently, we provided DOE with a list of computer hardware that was not accounted for. This list was based solely on DOE's own AMS inventory lists and site inventory lists. Assuming that DOE is not contending that the data it provided us contained errors and was incomplete, then the information we provided to DOE about missing computers would not have contained errors or have been incomplete. Therefore, DOE should coordinate with DIIT and site staff to determine the physical locations of the 1,816 pieces of unaccounted-for computer hardware that could not be identified during our inventory inspections conducted at nine sampled sites as part of this audit.

16. Consider implementing and activating tracking software on computer hardware, especially those items that are most susceptible to theft and loss.

**DOE Response:** "The DOE agrees with this recommendation and will investigate cost effective solutions for implementation."

17. Ensure that administrative sites and schools advertise unused pieces of computer hardware items on the “Advertised Items” page of the DOE website to prevent waste and redundant purchases of new equipment that replicates unused equipment already in DOE’s possession.

**DOE Response:** “The DOE does not agree with this recommendation.

The DOE’s SOP intentionally does not promote that sites advertise unused computer/tablet assets because of the resources that would be required to ensure that assets would be of value to other sites. Prior to an asset being deemed of value to another DOE site, technicians would need to determine the condition of the equipment and make sure that hard drives were fully erased so that no confidential information would be inadvertently shared in this process.

As touched upon in the response to recommendation eight, when equipment is no longer needed by a site, the DOE transfers hardware to locations where it is needed. From the information the Comptroller provided to the DOE during the course of this audit, all requisite follow up questions were not posed to site administrators that would have identified if equipment not in use was not needed. If a determination is made that equipment is not needed and therefore a transfer is warranted, the SOP provides guidance about documenting the transfer.”

**Auditor Comment:** While DOE claimed that its SOP does not intentionally promote the advertisement of computers on its website, the SOP does not provide any alternative methods for sites to advertise unused computer hardware. Thus, if the sites with excess or unused computer hardware do not utilize the advertisement website, the sites in need of computer hardware would not be aware that there is computer hardware available for transfer. Contrary to DOE’s contention, the procedures necessary to erase the computer hard drive before transfer is minimal in comparison to the benefit that asset may provide to another site in need.

Additionally, DOE’s statement that the sites transfer hardware to locations where it is needed is meaningless given that it does not have sufficient procedures in place to identify unused hardware and update inventory records as necessary. Moreover, based on the amount of unused computer hardware observed at the sites, we have found that DOE’s current procedures cannot reasonably ensure that unused computer hardware is transferred.

18. Provide administrative site and school Inventory Officers with annual inventory training, AMS access, and other resources needed to maintain accurate and complete inventory records and adequate controls, including tracking software and/or barcode scanners and additional staffing and/or PCS vendor support.

**DOE Response:** “The DOE partially agrees with this recommendation inasmuch as parts of this recommendation reflect the DOE’s current practice.

As mentioned in response to recommendation 15, the Comptroller did not ask requisite follow up questions of principals. The Comptroller informed the DOE that they did not consistently ask if:

1. Why or if inventory officers had access to AMS; and

2. If principals had considered letting inventory officers know of the additional ala carte services offered by vendors.

These questions are critical to the auditors attaining a full understanding of the environment they are testing.

FSC staff will provide training to schools on inventory. They will focus on offering training to schools who did not certify their inventory statements in FY17. An inventory section will be added to all upcoming procurement trainings as well.

As shared with the Comptroller during the course of the audit, administrative staff will continue to receive inventory training through the DOE's "Lunch and Learn" sessions that cover the DOE's SOPs. Where appropriate, the DOE will incorporate additional guidance on any initiatives such as the new asset management strategies outlined in recommendation one.

As noted above, the DOE will explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.

Concerning the PCS vendor support, since a number of these services come at an up cost, allocation of resources is at the discretion of site administrators."

**Auditor Comment:** Contrary to DOE's assertion, it is not DOE's current practice to provide administrative site and school Inventory Officers with annual inventory training, AMS access, and other resources.

Section 1.2 of DOE's Inventory SOP states that the site Inventory Officer is "the individual selected by the site administrator . . . whose major responsibility is to coordinate all aspects of inventory control including, but not limited to the removal of obsolete equipment (except for obsolete computer equipment), supervising and handling all records related to the physical inventory."

In complete disregard of the importance of the role Inventory Officers highlighted in its Inventory SOP, DOE did not ensure that its Inventory Officers receive the necessary tools and training to maintain inventory at each site. Based on our review of DOE training records, we found that Inventory Officers were not included in inventory training even though they are given the responsibility for maintaining computer inventory and would benefit the most from such training.

Additionally, Section 3.2 of DOE's Inventory SOP states "[t]he DOE's Asset Management System (AMS) is a database containing records of all computer-related equipment (including, but not limited to, desktops, laptops, printers, etc.) that were purchased via FAMIS." However, DOE refuses to acknowledge the added benefit each site would receive if the Inventory Officer has access to the relevant computer information in AMS. Furthermore, upon conducting physical inspections of the sampled sites, Inventory Officers informed the audit team that they were unaware of any additional inventory services available which may enable them to better account for computer hardware.

19. Advise administrative site and school Inventory Officers of available PCS vendor ala carte inventory services, including inventorying computer hardware.

**DOE Response:** “The DOE does not agree with this recommendation. Please see the response to recommendation 18. Concerning the PCS vendor support, since a number of these services come at an additional cost, allocation of resources is at the discretion of site administrators.

However, as noted above, the DOE will explore alternative opportunities to improve its capacity to inventory computer hardware as part of an assessment of potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.”

**Auditor Comment:** As explained above, the benefit of providing sites with the resources needed to properly account for computer hardware may outweigh the relevant costs when considering the large amount of unaccounted-for computer hardware.

## DETAILED SCOPE AND METHODOLOGY

We conducted this performance audit in accordance with generally accepted government auditing standards. Those 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. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit covers the period from Fiscal Year 2015 through 2016 (July 1, 2014 to June 30, 2016). We performed detailed testing based on the current inventory records maintained by DOE sites during the audit process. We obtained a list of sites from FAMIS. A single site may have one or more physical locations associated with it.

To obtain an understanding of DOE's efforts in implementing our prior audit report's recommendations, we reviewed the prior Comptroller's *Audit Report on the Department of Education's Oversight of Computer Hardware Purchased through the Apple Inc. and Lenovo Contracts* (Audit Number FM14-057A), issued on December 1, 2014, and DOE's Audit Implementation Status Report dated October 20, 2015. We also met with DOE officials from OAG, DIIT, and the Division of Financial Operations to discuss what steps DOE took to implement each of the prior audit's recommendations. We also conducted walk-throughs of DOE's Galaxy budgeting system, FAMIS, and AMS.

To gain an understanding of the rules and regulations that govern DOE's inventory practices, we reviewed New York State Education Law Section 2554(4) and the DOE Inventory SOP dated September 2016. We also reviewed computer hardware manufacturer and PCS vendor contracts.

To determine whether DOE made recommended changes to its inventory procedures and to assess DOE's current inventory procedures, we compared the DOE Inventory SOP in effect during the prior audit scope period of July 2011 through June 2013, to the revised DOE Inventory SOPs dated October 2015, and September 2016.

We also flowcharted the current inventory procedures and identified differences in DOE inventory requirements for administrative sites and schools.

To determine whether schools submitted an *Annual Inventory Statement* certifying that an inventory count was performed, we reviewed FAMIS certification monitoring reports for School Years 2013 through 2016. For those schools that submitted an *Annual Inventory Statement*, we determined whether school personnel submitted their *Annual Inventory Statement* by April 30<sup>th</sup>.

To determine whether Inventory Officers were rotated periodically, we reviewed FAMIS certification monitoring reports for School Years 2013 through 2015 to see whether the same person was reported as the Inventory Officer for each year.

We requested that DOE tell us how many training sessions OAG conducted during Fiscal Years 2015 and 2016, and to provide us training schedules, if available. We also requested that DOE tell us whether schools and/or administrative sites received training.

To determine whether DOE located the 1,817 pieces of unaccounted-for computer hardware cited in the prior audit, we requested that DOE tell us what efforts it made to locate computer hardware and the current status of computer hardware. DOE reported that it located 353 pieces of computer hardware—282 pieces for a single administrative site and 71 pieces at 7 schools. We judgmentally selected a sample of 188 of the 353 pieces of computer hardware for physical inspection, to verify that DOE located computer hardware.

We judgmentally selected 162 of the 282 pieces reported as located for the administrative site. We selected the building location at which DOE reported it had located the greatest number of pieces of computer hardware.

Additionally, we judgmentally selected to inspect 26 of the 71 pieces reported as located at 1 of the 7 schools. Similarly, we selected the school for which DOE reported it located the greatest number of pieces of computer hardware.

For those items that DOE reported it could not locate, we asked for documentation showing that DOE had reported missing or stolen equipment to appropriate DOE personnel and the New York City Police Department.

To determine whether DOE's current decentralized inventory records were accurate and complete, we judgmentally selected a sample of nine sites (eight schools and one administrative site) for an inventory count. We judgmentally selected those sites that purchased the most computer hardware in Fiscal Years 2015 and 2016, based on FAMIS data. (We excluded sites that were reviewed as part of the prior audit, since DOE was in the process of reviewing inventory records at these sites.)

For these nine sites, we compiled a list of computer hardware that should be physically present, based on AMS inventory lists, site inventory lists, and auditor observations. We limited our review to computer hardware that was less than or equal to year six years old. We conducted physical inspections of these sites to determine whether computer hardware was accounted for. Further, we compared our inventory list to sites' inventory lists to determine whether the sites' lists were accurate and complete.

We also identified computer hardware that was not in use at sampled sites and reviewed the "Advertised Items" page of the DOE website to see whether sites offered to transfer this equipment to other DOE locations where it is needed.

In addition, we interviewed personnel responsible for inventory at the nine sampled sites to gain an understanding of their inventory recordkeeping practices and internal controls.

While the results of our inventory tests are not projectable, they do provide sufficient and appropriate evidence to support our findings and conclusions about DOE's inventory recordkeeping and controls.

APPENDIX

A Site Name	B Certified that an Inventory Count Was Performed for FY16		C Certification Submitted on Time		D Date of the Most Recent Inventory Certification	E Total # of Pieces of Computer Hardware Calculated by Auditors^	F Computer Hardware Not Physically Accounted for		G Computer Hardware Not Recorded on Site Inventory Records		H Total Computer Hardware Not Properly Accounted for (F and/or G)		I Computer Hardware Not in Use and Not Transferred to Other Sites	
	Y	N	Y	N	MM/DD/YY	#	#	%	#	%	#	%	#	%
<b>Schools</b>														
(K160) P.S. 160 William T. Sampson		N		N	05/21/15	1,260	57	4.52%	298	23.65%	348	27.62%	87	6.90%
(K430) Brooklyn Technical High School		N		N	N/A	2,159	209	9.68%	721	33.40%	844	39.09%	91	4.21%
(K490) Fort Hamilton High School		N		N	05/22/15	3,369	691	20.51%	616	18.28%	1,303	38.68%	206	6.11%
(M973) ReStart Academy*		N		N	05/20/15	256	19	7.42%	117	45.70%	136	53.13%	-	0.00%
(Q016) P.S. Q016 The Nancy DeBenedittis School		N		N	05/29/15	1,653	340	20.57%	149	9.01%	448	27.10%	-	0.00%
(Q024) P.S. 024 Andrew Jackson		N		N	05/21/15	1,577	60	3.80%	299	18.96%	333	21.12%	-	0.00%
(X089) P.S. 089 Bronx		N		N	06/24/15	2,171	159	7.32%	590	27.18%	673	31.00%	-	0.00%
(X180) M.S. 180 Dr. Daniel Hale Williams		N		N	05/12/15	1,352	170	12.57%	682	50.44%	728	53.85%	20	1.48%
<b>School Totals</b>						<b>13,797</b>	<b>1,705</b>	<b>12.36%</b>	<b>3,472</b>	<b>25.16%</b>	<b>4,813</b>	<b>34.88%</b>	<b>404</b>	<b>2.93%</b>
<b>Administrative Site</b>														
28-11 Queens Plaza North, LIC, NY 11101		N/A		N/A	N/A	532	111	20.86%	69	12.97%	180	33.83%	316	59.40%
<b>Grand Total</b>						<b>14,329</b>	<b>1,816</b>	<b>12.67%</b>	<b>3,541</b>	<b>24.71%</b>	<b>4,993</b>	<b>34.85%</b>	<b>720</b>	<b>5.02%</b>
^ Auditor calculations were based on school inventory records, DIIT AMS records, purchasing records, and the observed by auditor.														
* Numbers are exclusive of AMS listings														



June 26, 2017

Ms. Marjorie Landa  
Deputy Comptroller for Audits  
New York City Office of the Comptroller  
1 Centre Street, Room 1100  
New York, NY 10007-2341

**Re: Follow-Up Audit Report on Department of Education's Oversight of Computer Hardware Purchases through the Apple Inc. and Lenovo Inc. Contracts (FN17-098F)**

Dear Ms. Landa:

This letter will serve as the New York City Department of Education's (DOE) formal response to the New York City Office of the Comptroller's (Comptroller) draft follow-up audit report of the *Department of Education's Oversight of Computer Hardware Purchases through the Apple Inc. and Lenovo Inc. Contracts* (Report).

#### *Introduction*

The Comptroller recommended in its 2014 audit report that the DOE implement a centralized inventory system, preferably using the DOE's Asset Management System (AMS). During the current audit, as well as the 2014 audit, the DOE stressed that AMS should not be treated as a centralized inventory system. The DOE's response to the 2014 audit outlines why it is not practical for AMS to be used as an inventory system. One of the many examples explained to the Comptroller throughout the course of both audits is being offered here to provide context: The main purpose of AMS is to support IT maintenance. Accordingly, assets are tracked by the physical building address, not by office. Unlike schools, DOE administrative offices are mostly co-located in a single building and therefore asset information recorded in AMS for all offices in a single physical building are associated with a shared address. No unique designation appropriate for tracking administrative office's inventory is available in AMS. As a result, administrative offices cannot upload location-specific edits to the AMS, a critical data point for an inventory system.

Due to the limits of AMS, the DOE stressed to the Comptroller that a more accurate and reliable test would be to compare assets purchase data to site inventories. This would enable the Comptroller to see *all* purchases (*e.g.*, iPads are not included in AMS data) under the contracts selected for audit and check that sites had adequate controls over said purchases. However, the Comptroller designed their audit tests around how they think the DOE should utilize AMS instead of letting the conditions of the environment determine the appropriate tests. As a result, the Comptroller failed to obtain meaningful results and in turn limited their ability to provide the DOE with recommendations that are implementable.

The DOE's review of the data used to formulate the Comptroller's findings uncovered weaknesses in analysis and fieldwork methodology. The DOE stressed these errors at multiple meetings with the

Comptroller at the conclusion of the audit. However, rather than respond to these concerns, the Comptroller has instead concluded the audit, even though, notably, requests for information are still open. It is the DOE's position that in numerous instances the Report forms erroneous conclusions attributable to the auditors' failure to make the necessary inquiry and/or not placing requisite emphasis on the information provided by the DOE. Therefore, the findings and recommendations are not built from a foundation that accurately reflects the condition of the DOE's inventory listings.

#### *Response to Recommendations*

The DOE is planning some changes to its help desk and device management strategies which will include:

1. DOE is implementing a new help desk incident management platform, which includes the functionality that AMS was designed for – connecting the physical building of a computer asset to a person experiencing a technical issue for the purposes of providing technical support. As a result, the DOE intends to retire AMS as we migrate to the new platform;
2. The DOE is exploring cost effective Device Management (DM) software solutions to enable identification and management devices that connect to its network to improve how devices are managed and supported;
3. The work to transition to a new system has already started with the DOE currently putting a device management software solution on Windows devices (both new and old ones) that will enable devices on the network to be identified and managed; and
4. The DOE is actively evaluating similar tools for Apple and Google devices.

The DOE will also explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner. After the completion of deploying the appropriate DM software solutions for each device, the DOE will have updated information on computer assets through network-discovery and active management.

The changes in strategy laid out above have guided a number of the responses provided below.

The NYCC audit team recommend that the DOE should:

**Recommendation 1.** *Have a centralized inventory system for computer hardware that includes purchase and delivery information as well as current location. DOE should explore using its existing AMS system for this purpose.*

**Response.** The DOE does not agree with the recommendation due to the change in the asset management strategy outlined above.

The suggestion from the Comptroller to adapt AMS to be an inventory system is too far removed from its original intention and therefore it is not implementable. As noted above, the DOE is looking to retire AMS and is implementing a modern help desk incident management system. The DOE is also exploring the use of cost effective DM software solutions that will enable identification and management of all devices that connect to the DOE's network.

As noted above, the DOE will explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.

**Recommendation 2.** *Revise its Standard Operating Procedures to include the following:*

- *Ensure that all computer hardware purchases, including tablets and netbooks, are included in AMS;*
- *Require all schools and administrative sites to conduct annual inventory counts and submit the results to a central administrative unit charged with tracking all computer inventory and maintaining a comprehensive and accurate inventory of all DOE computer hardware; and*
- *Reconcile the results of inventory counts with the information in AMS to ensure information in AMS is accurate and up to date.*

**Response.** The DOE partially agrees with this recommendation.

Due to the changes in strategy outlined above, the DOE will be retiring AMS. It should be noted that the reference to netbooks is outdated since that form factor is no longer in use and is not available for procurement within the DOE.

As we responded to Recommendation 1 above, the DOE will investigate potential tools/systems to strengthen inventory practices. If the DOE implements changes to its inventory practices, system and/or protocols, changes to the DOE's Standard Operating Procedures (SOP) will be made as necessary.

**Recommendation 3.** *Routinely monitor recordkeeping procedures for computer hardware at DOE sites to ensure that accurate and complete inventories are maintained.*

**Response.** The DOE agrees with this recommendation inasmuch as it is a reflection of current practice.

Since the Comptroller's 2014 audit, the DOE has implemented a number of changes to its processes both at schools and at administrative sites to support the inventory process.

For schools the DOE has:

- Updated the Fiscal Close calendar to include inventory and certification deadlines;
- Clear policy reminders and timelines that went out in the DOE's Principal Weekly and Field Support for Schools newsletters; and
- Communicated inventory certification completion lists to the Field Support Centers (FSC) who communicated and worked with schools to support this work.

At the administrative sites, the DOE has:

- Required every office to:
  - Have an Inventory Officer (Head of Office or Designee); and
  - Complete an annual inventory and update that inventory as equipment and personnel change.
- Implemented key practices:
  - Review current inventory process and documents to ensure they are up to date; and
  - Complete annual inventory by mid-late May.

- We provided administrative sites with inventory guidance:
  - Review of the full inventory SOP;
  - “Lunch and Learn” sessions on DOE’s SOPs, including the inventory SOP; and
  - Clear policy reminders that went out in P-Weekly.

Starting in Fiscal Year 2017, DOE divisions have been asked to provide certification statements for their offices as well. All certification have been submitted for FY 17.

**Recommendation 4.** *Determine the physical locations of 1,583 of the 1,817 computers that remain unaccounted for (1,090 computers from discrepancies identified between AMS lists and 493 of the 727 computers that could not be identified during our physical inventory counts).*

**Response.** The DOE partially agrees with this recommendation.

With regards to the 1,090 assets the Comptroller points to in the recommendation, the DOE would like to reiterate that the assets were unidentified because in 2014 the Comptroller was using AMS data to locate equipment against DOE’s recommendation. There was no testing done during this current audit to determine the location of the 1,090 assets and therefore no proof they are unaccounted for.

As for the 493 assets, the inventory listings provided to support the 282 items identified subsequent to the 2014 audit were collected in 2015 and the testing by the Comptroller for this audit was done in 2017. The DOE informed the Comptroller that an inventory update is currently being coordinated through the divisional Chiefs of Staff. This is inclusive of all administrative sites. Subsequent to necessary follow ups and reconciliations, the DOE, in consultation with necessary stakeholders, will identify what next steps are necessary with regards to equipment identified by the Comptroller as unaccounted for.

**Recommendation 5.** *Conduct a system-wide inventory count and reconciliation of DOE data to determine if other computers are not properly accounted for.*

**Response.** The DOE continues to disagree with this recommendation.

Currently, local administrators maintaining inventories are the ones who determine what inventory methods match the devices and use patterns at their sites. These practices guide how and when inventories are updated which supports accountability without burdening schools and administrative staffers. The collective of these inventories accounts for equipment purchased system-wide. The DOE’s methodology aligns with not having administrative compliance take time away from the classroom.

**Recommendation 6.** *Refer evidence of misconduct in connection with the purchase, receipt and usage of computer equipment to appropriate authorities, including law enforcement in the case of evidence of potential criminal activity.*

**Response.** The DOE agrees with this recommendation inasmuch as it is the DOE’s current practice. The DOE’s SOP on inventory requires administrative offices and schools to report missing equipment to the appropriate authorities, including the New York Police Department.

**Recommendation 7.** *Instruct administrative sites and schools to identify unused computer hardware in their inventory records.*

**Response.** The DOE disagrees with this recommendation because it does not align with the DOE's asset needs.

For example, at the administrative site the Comptroller selected for audit, the audit team identified 316 items of computer hardware as "not in use". As discussed on several occasions with the auditors, we believe this is misleading. This site includes equipment ordered by several Divisions and offices, all but one of which were not included in the auditors' review. The office that was audited is a team that purchases and assigns Assistive Technology (AT) devices to students on a dedicated basis pursuant to their Individualized Education Program (IEP), as well as to a small number of DOE staff who assess the AT needs of these students as part of the IEP process. In order to ensure that students are assessed and then assigned AT equipment as quickly as possible, the DOE purchases a 60 – 90 day inventory of the most frequently mandated equipment. This equipment, which turns over regularly, is held in a central inventory until it is assigned to a student. This activity is tracked, along with a range of relevant data, in a separate database, unrelated to AMS. Thus, the auditors' assertion that these devices, which represent a very large proportion of the "not in use" categorization for the audited administrative site, is highly misleading given that having these items in inventory is critical to the support this office provides citywide to DOE students' with IEPs.

As stated in our response to a similar recommendation in the 2014 audit, at schools equipment is placed in and out of service based on the needs of its students. To update an inventory system every time this happens is an unnecessary burden to schools.

**Recommendation 8.** *Transfer unused hardware to locations where it is needed.*

**Response.** The DOE agrees with this recommendation. When equipment is no longer needed by a school – due, for example, to school closures, school mergers/consolidations, and school or office relocations – the DOE transfers hardware to new locations where it is needed. However, there is a difference between equipment that is *not in use* and equipment that is *not needed*. Auditors would need to ask the site administrators about what the plans were for equipment not in use before attempting to classify it as not needed.

When the DOE asked the Comptroller if they asked requisite follow up questions at all sites where they identified equipment not in use, they told the DOE that they did not. Without asking site administrators what the plans were for unused equipment, one cannot make an inference that equipment is not needed.

As addressed in our response to recommendation 7, administrative sites' functions might necessitate they keep an inventory of equipment on hand to provide to students in an expeditious manner. Schools may feel that they need to have a number of assets on hand as replacements so as to not disrupt education to students. Finally, a school register changes from year-to-year. This might mean that a site administrator decides that it is a waste of resources to transfer equipment it will likely need in short order.

**Recommendation 9.** *Ensure that OAG conducts inventory procedures as part of its annual field audits of administrative sites and schools.*

**Response.** The DOE disagrees with this recommendation. OAG's audit areas are based on risk assessments and OAG does not believe it is prudent at this time to change its selection criteria by adding inventory. OAG provides other supports to the DOE concerning inventory including, but not limited to, providing the trainings mentioned in the Report.

**Recommendation 10.** *Label and indelibly mark or otherwise permanently tag all computer hardware, including tablets, with the words "Property of Department of Education" and the site location.*

**Response.** The DOE agrees with this recommendation. We will evaluate the cost effectiveness of implementing this recommendation.

**Recommendation 11.** *Require all administrative sites to submit an Annual Inventory Statement via FAMIS which certifies that an annual inventory count was performed.*

**Response.** The DOE agrees with this recommendation. As mentioned in response to recommendation three, administrative site certifications were collected in FY 17 and the DOE will continue to collect them annually moving forward.

**Recommendation 12.** *Ensure that administrative sites and schools submit Annual Inventory Statements within 30 days of completing the inventory and before the annual due date, currently in April.*

**Response.** The DOE agrees with the part of this recommendation that addresses ensuring that sites submit Annual Inventory Statements. However, the timeline provided by the Comptroller does not align with the DOE's needs.

The DOE's focus is on certifications being submitted and the deadline is used to identify sites where additional follow up is required. The DOE knows the competing priorities facing schools as the year ends. As illustrated below, the DOE's approach has a proven record of success. In addition to the 100% certification for administrative sites shared in response to recommendation two, as of June 20, 2017, 91% of schools have certified their inventories. That is almost three times as many schools as compared to immediately following the April 30 SOP deadline. This jump is directly attributable to the DOE's strategy which allows FSC staff to target support directly to schools that were unable to certify by the April deadline.

Please see response to recommendation 11 for additional information on the administrative sites.

**Recommendation 13.** *Revise its Inventory SOP to specify how often Inventory Officers for administrative sites and schools be rotated.*

**Recommendation 14.** *Ensure that administrative sites and schools rotate Inventory Officers periodically.*

**Response to Recommendations 13 and 14.** The DOE disagrees with these recommendations.

The guidance provided in the SOP regarding rotation of inventory officers has been intentionally crafted to allow site administrators to determine what is best. Schools with small administrative staff might not have the ability to rotate inventory officers. Edits to the SOP recommended by the Comptroller are too prescriptive for an organization as diverse as the DOE.

**Recommendation 15.** *Determine the physical locations of the 1,817 pieces of unaccounted-for computer hardware that could not be identified during our inventory inspections conducted at nine sampled sites as part of this audit.*

**Response.** The DOE does not believe that the Comptroller conducted sufficient tests and therefore declines to implement this recommendation. The data files from the Comptroller that the DOE would need to rely on to identify unaccounted equipment are insufficient and not all information was gathered to validate the findings.

During the course of the Comptroller sharing findings with the DOE, the DOE asked the Comptroller what follow up questions were asked of principals. The Comptroller informed the DOE that they did not consistently ask if equipment was not in use, what was planned for said equipment. Additionally, asset identifying information was relayed back to the DOE with errors and/or in an incomplete manner, which limits the DOE's ability to commit to implementing the recommendation as written. Finally, despite the DOE requesting that the Comptroller provide data to the DOE in a manner that allowed them to follow up as necessary, the data provided combined different audit tests and did not differentiate where the information was gathered from. For the reasons outlined above, the DOE does not feel comfortable committing to the number of assets the Comptroller cited and therefore is not able to agree with this recommendation.

**Recommendation 16.** *Consider implementing and activating tracking software on computer hardware, especially those items that are most susceptible to theft and loss.*

**Response.** The DOE agrees with this recommendation and will investigate cost effective solutions for implementation.

**Recommendation 17.** *Ensure that administrative sites and schools advertise unused pieces of computer hardware items on the "Advertised Items" page of the DOE website to prevent waste and redundant purchases of new equipment that replicates unused equipment already in DOE's possession.*

**Response.** The DOE does not agree with this recommendation.

The DOE's SOP intentionally does not promote that sites advertise unused computer/tablet assets because of the resources that would be required to ensure that assets would be of value to other sites. Prior to an asset being deemed of value to another DOE site, technicians would need to determine the condition of the equipment and make sure that hard drives were fully erased so that no confidential information would be inadvertently shared in this process.

As touched upon in the response to recommendation eight, when equipment is no longer needed by a site, the DOE transfers hardware to locations where it is needed. From the information the Comptroller

provided to the DOE during the course of this audit, all requisite follow up questions were not posed to site administrators that would have identified if equipment not in use was not needed. If a determination is made that equipment is not needed and therefore a transfer is warranted, the SOP provides guidance about documenting the transfer.

**Recommendation 18.** *Provide administrative site and school Inventory Officers with annual inventory training, AMS access, and other resources needed to maintain accurate and complete inventory records and adequate controls -- including tracking software and/or barcode scanners and additional staffing and/or PCS vendor support.*

**Response.** The DOE partially agrees with this recommendation inasmuch as parts of this recommendation reflect the DOE's current practice.

As mentioned in response to recommendation 15, the Comptroller did not ask requisite follow up questions of principals. The Comptroller informed the DOE that they did not consistently ask if:

1. Why or if inventory officers had access to AMS; and
2. If principals had considered letting inventory officers know of the additional ala carte services offered by vendors.

These questions are critical to the auditors attaining a full understanding of the environment they are testing.

FSC staff will provide training to schools on inventory. They will focus on offering training to schools who did not certify their inventory statements in FY17. An inventory section will be added to all upcoming procurement trainings as well.

As shared with the Comptroller during the course of the audit, administrative staff will continue to receive inventory training through the DOE's "Lunch and Learn" sessions that cover the DOE's SOPs. Where appropriate, the DOE will incorporate additional guidance on any initiatives such as the new asset management strategies outlined in recommendation one.

As noted above, the DOE will explore additional opportunities to improve its current inventory practices, including investigating potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.

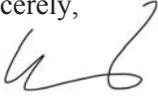
Concerning the PCS vendor support, since a number of these services come at an up cost, allocation of resources is at the discretion of site administrators.

**Recommendation 19.** *Advise administrative site and school Inventory Officers of available PCS vendor ala carte inventory services, including inventorying computer hardware.*

**Response.** The DOE does not agree with this recommendation. Please see the response to recommendation 18. Concerning the PCS vendor support, since a number of these services come at an additional cost, allocation of resources is at the discretion of site administrators.

However, as noted above, the DOE will explore alternative opportunities to improve its capacity to inventory computer hardware as part of an assessment of potential tools/systems and protocol changes that could support our diverse group of administrative and school sites in a cost effective and feasible manner.

Sincerely,

A handwritten signature in black ink, appearing to read 'UR' with a stylized flourish at the end.

Ursulina Ramirez  
Chief Operating Officer & Chief of Staff