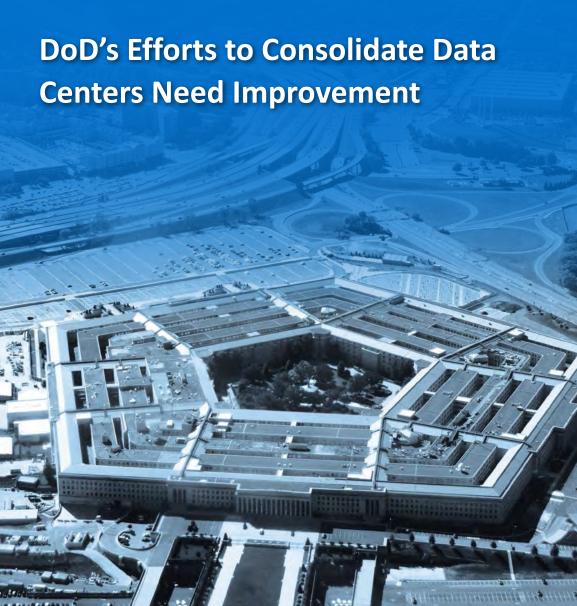


INSPECTOR GENERAL

U.S. Department of Defense

MARCH 29, 2016





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Results in Brief

DoD's Efforts to Consolidate Data Centers Need Improvement

March 29, 2016

Objective

Our audit objective was to determine whether selected DoD Components were effectively consolidating their data centers in accordance with the Federal Data Center Consolidation Initiative (FDCCI). Specifically, we planned to verify the status of the consolidations and determine whether actual efficiencies gained met the estimated efficiencies reported to the Office of Management and Budget (OMB). Because DoD acknowledged the significant challenges to realizing efficiencies, we focused on determining whether DoD effectively consolidated data centers in accordance with FDCCI and DoD requirements for data center consolidation.

Findings

DoD did not meet the FDCCI requirement to consolidate 40 percent of its data centers by yearend FY 2015. Of the 3,115 data centers reported in DoD's Data Center Inventory Management (DCIM) system, only 568 (18 percent) were closed by fiscal yearend. This occurred because the DoD Chief Information Officer (CIO) did not revise DoD's strategy to meet the 40-percent goal for data center reduction after OMB revised the definition of a data center to include smaller facilities. In addition, the DoD CIO did not enforce compliance with the DoD requirement for one installation processing node per installation. As a result, DoD will not reduce its energy and real estate footprint or achieve the cost savings outlined in the FDCCI. Even with planned closures, DoD will not reach its internal goal to reduce the number of data centers by 60 percent by FY 2018.

Findings (cont'd)

We nonstatistically reviewed 119 of 1,501 data centers owned by the Army, Marine Corps, Navy, and the Defense Information Systems Agency (DISA). We did not include the Air Force in the sample because an Air Force CIO official acknowledged the Air Force severely underreported the number of data centers the Air Force owns and operates. We determined that 68 of the 119 data centers did not report accurate DCIM information. This occurred because the DoD CIO did not issue clear guidance on recording and updating data center information in DCIM. In addition, the DoD CIO and Component CIOs did not implement an effective process to validate the accuracy of DCIM data. As a result, there is an increased risk that Congress and other stakeholders could inappropriately assess DoD's cost savings and efficiencies gained through data center reduction.

Recommendations

We recommend that the DoD CIO revise its strategy to include a plan for meeting its 60-percent data center reduction goal by FY 2018 and a process for monitoring Component progress toward meeting the data center consolidation goals. We also recommend that the Military Service CIOs and the DISA CIO revise their process for validating DCIM information to ensure accuracy and completeness. Additional recommendations appear in the full report.

Management Comments and Our Response

Based on management comments, we redirected one recommendation to the Department of the Navy CIO. The DoD CIO; Army Deputy CIO, responding for the Army CIO; Navy CIO; and Air Force Chief, Information Dominance and CIO addressed all specifics of the recommendations, and no further comments are required. Although the DISA CIO partially agreed with Recommendation B.2, we disagree with his assertion that two DISA facilities are not data centers and should not be included in DCIM. We request that the DISA CIO provide additional comments on this report by April 29, 2016. Please see the Recommendations Table on the next page.

Recommendations Table

Management	Recommendations Requiring Comment	No Additional Comments Required
Chief Information Officer, DoD		A.1, A.2, B.1.a, and B.1.b
Chief Information Officer, Department of the Army		B.2
Deputy Department of the Navy Chief Information Officer		B.2
Chief Information Officer, Office of the Secretary of the Air Force		B.2
Chief Information Officer, Defense Information Systems Agency	B.2	

Please provide Management Comments by April 29, 2016.



INSPECTOR GENERAL DEPARTMENT OF DEFENSE

4800 MARK CENTER DRIVE ALEXANDRIA, VIRGINIA 22350-1500

March 29, 2016

MEMORANDUM FOR CHIEF INFORMATION OFFICER, DEPARTMENT OF DEFENSE

CHIEF INFORMATION OFFICER, DEPARTMENT OF THE ARMY CHIEF INFORMATION OFFICER, MARINE CORPS CHIEF INFORMATION OFFICER. DEPARTMENT OF THE NAVY CHIEF INFORMATION OFFICER, DEPARTMENT OF THE AIR FORCE CHIEF INFORMATION OFFICER, DEFENSE INFORMATION SYSTEMS AGENCY

SUBJECT: DoD's Efforts to Consolidate Data Centers Need Improvement (Report No. DODIG-2016-068)

We are providing this report for review and comment. DoD did not effectively consolidate data centers in accordance with the Federal Data Center Consolidation Initiative and DoD data center consolidation requirements. In addition, DoD Components did not accurately report data center information to the DoD Chief Information Officer (CIO). We conducted this audit in accordance with generally accepted government auditing standards.

We considered management comments on a draft of this report when preparing the final report. DoD Instruction 7650.03 requires that recommendations be resolved promptly. We redirected Recommendation B.2 to the Department of the Navy CIO because the CIO has the authority to implement the recommendation for Deputy CIO-Navy and Deputy CIO-Marine Corps actions. Comments from the DoD CIO; Deputy CIO for the Army, responding for the Department of the Army CIO; Department of the Navy CIO; and Air Force CIO addressed the specifics of Recommendations A.1, A.2, B.1.a, B.1.b, and B.2 and conformed to the requirements of DoD Instruction 7650.03. However, comments from the Defense Information Systems Agency CIO partially addressed the specifics of Recommendation B.2. We request additional comments from the Defense Information Systems Agency CIO on Recommendation B.2 by April 29, 2016.

Please provide comments that conform to the requirements of DoD Instruction 7650.03. Please send a PDF file containing your comments to audrco@dodig.mil. Copies of your comments must have the actual signature of the authorizing official for your organization. We cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET). Comments provided on the draft report must be marked and portion-marked, as appropriate, in accordance with DoD Manual 5200.01. If you consider any matters to be exempt from public release, you should mark them clearly for Inspector General consideration.

We appreciate the courtesies extended to the staff. Please direct questions to me at (703) 699-7331 (DSN 449-7331).

Carol N. Gorman

Assistant Inspector General Readiness and Cyber Operations

Carol M. A annu

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Introduction

Objective

Our audit objective was to determine whether selected DoD Components were effectively consolidating¹ their data centers in accordance with the Federal Data Center Consolidation Initiative (FDCCI). Specifically, we planned to verify the status of the consolidations and determine whether actual efficiencies gained met the estimated efficiencies reported to the Office of Management and Budget (OMB).

We planned to compare actual efficiencies gained with estimated efficiencies reported. However, we focused on determining whether DoD effectively consolidated data centers in accordance with FDCCI and DoD data center consolidation because DoD acknowledged significant challenges to realizing efficiencies. Specifically, we reviewed the Army, Marine Corps, Navy, Air Force, and the Defense Information Systems Agency (DISA) data center consolidation efforts. For a discussion on the scope and methodology, and prior audit coverage, please see Appendix A.

Background

In February 2010, OMB established the FDCCI,² in part to reverse the growth of data centers in the Federal Government. The FDCCI's strategic goal was for Federal agencies to close 40 percent of their data centers by yearend FY 2015. Overall, the FDCCI aims to:

- promote green information technology (IT)³ to reduce the energy and real estate footprint of Government data centers;
- reduce the cost of data center hardware, software, and operations;
- increase the overall IT security posture in the Government; and
- shift IT investments to more efficient computing platforms and technologies.

¹ For this audit, consolidated data centers include those that reduced information technology assets, merged with another data center, or closed.

² Federal Data Center Consolidation Initiative, February 26, 2010.

³ Green IT minimizes negative environmental impact of IT operations by ensuring that computers and computer-related products are designed, manufactured, operated, and disposed of in an environmentally friendly manner.

Federal Government Data Centers

In October 2010, OMB defined a data center as any room larger than 500 square feet devoted to data processing that met a tier (I, II, III, and IV)⁴ classification.⁵ As of July 2010, Federal agencies reported that 2,094 Federal data centers met that definition. In March 2012, OMB realized that data center facilities smaller than 500 square feet also consumed significant resources. OMB concluded that closing those small facilities would increase agency IT efficiencies and enable agencies to deliver better services to the American taxpayer. As a result, in March 2012, OMB revised the definition of a data center as a closet, room, floor, or building for the storage, management, and dissemination of data and information, which contains computer systems and associated components, such as databases, applications, storage systems, and data stores.⁶ The revised definition caused the number of data centers managed by DoD to increase from 772 in FY 2010 to more than 1,000 in FY 2012. The number continued to increase as DoD Components discovered more data centers based on the revised definition. By yearend FY 2015, DoD reported 3,115 data centers.

DoD's Data Center Consolidation Plan

In November 2011, DoD submitted to OMB a consolidation plan and progress report with details of DoD's strategic objectives for consolidating data centers. DoD's objectives were to:

- reduce cost:
- reduce environmental impact;
- improve efficiency and service levels through automation; and
- enhance business agility and effectively manage change.

DoD's data center consolidation plan identified the following challenges to determining actual cost savings:

- obtaining cost savings when the personnel who managed the closed or consolidated data centers were reassigned to other positions;
- measuring power consumption when power was not metered at most data centers:

⁴ Based on Uptime Institute definitions, Tier I is a basic data center with nonredundant capacity; Tier II has redundant capacity; Tier III has redundant capacity with dual power; and Tier IV has multiple, independent, physically isolated systems that each have redundant capacity. Redundant capacity means the data center infrastructure includes backup components that will activate if the primary resources fail.

⁵ Update on the Federal Data Center Consolidation Initiative, October 1, 2010.

⁶ Implementation Guidance for the Federal Data Center Consolidation Initiative (FDCCI), March 19, 2012.

- determining cost savings when data center floor space and facilities were repurposed for other uses such as office space and telecommunication facilities; and
- increasing IT resources at consolidated data center facilities to account for the increase in servers, systems, and applications.

Despite these challenges, DoD's preliminary cost savings estimate indicated savings of \$680 million by FY 2015. Specifically, DoD stated it could achieve annual savings of \$58 million in energy costs; \$511 million in data center building operational costs; and \$111 million in construction and expansion costs.

DoD Data Centers

In September 2012, DoD published the Core Data Center Reference Architecture, which defined the following four types of DoD data centers.

- Core Data Center (CDC): A highly capable data center that provides standardized hosting and storage services to the enterprise. CDCs consolidate computing and storage services hosted across hundreds of Component facilities.
- Installation Processing Node (IPN): A data center that serves a single DoD installation and local area⁷ with local services that cannot be provided from a CDC. Each DoD installation should have only one IPN, but each IPN may serve multiple enclaves8 to accommodate unique installation needs (for example, joint installations).
- Special Purpose Processing Node (SPPN): A data center that supports functions that cannot be supported by CDCs or IPNs because of the SPPN's association with local infrastructure or equipment, such as communications and networking, manufacturing, training, education, meteorology, medical, modeling and simulation, and test ranges. General-purpose processing and general-purpose storage cannot be provided by or through an SPPN, and an SPPN has no direct connection to the DoD Information Network.9
- Tactical/Mobile Processing Nodes:¹⁰ A data center similar to a CDC, optimized for the tactical or deployed environment. Depending on circumstances, tactical processing nodes may connect to the DoD Information Network through DoD satellite communications.

Installations physically or logically behind the network boundary.

A collection of information systems connected by one or more internal networks under the control of a single authority and security policy. The systems may be structured based on physical proximity or on function, independent of location.

⁹ The DoD Information Network (formerly the Global Information Grid) includes information capabilities that enable access to, exchange of, and use of information and services throughout DoD and with non-DoD individuals and organizations that exchange information with DoD users.

¹⁰ DoD is not required to report Tactical/Mobile Processing Nodes as part of the data center consolidation effort.

Guidance on DoD Data Center Consolidation

The DoD Chief Information Officer (DoD CIO) issued the following guidance to DoD Components, among others, on closing and consolidating data centers.

- Identification of Department of Defense Data Center Types, November 1, 2012. DoD Components were required to provide projected closure dates for noncore data centers (IPNs and SPPNs).¹¹
- DoD Component Data Center Consolidation Implementation Plans, July 11, 2013. DoD developed an internal data center reduction goal of 60 percent of all DoD data centers by yearend FY 2018. DoD Components were required to submit implementation plans describing how they planned to meet that goal.
- Changes in DoD Data Center Inventory and Consolidation Implementation Plan Reporting Requirements, March 31, 2015. The DoD CIO canceled the DoD Component requirement to provide implementation plans for data center consolidation and identified the Data Center Inventory Management (DCIM) system as the authoritative database for data center inventory and implementation milestones. On April 30, 2015, the DoD CIO designated DCIM data as valid and began using it to report data center closures to OMB, Congress, the Government Accountability Office, and other DoD stakeholders.

Review of Internal Controls

DoD Instruction 5010.40¹² requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls. We identified an internal control weakness related to the accuracy of DCIM data. The DoD CIO and Military Component CIOs lacked a comprehensive process to ensure the inventory data in DCIM were accurate. We will provide a copy of the report to the senior officials responsible for internal controls at the Office of the DoD CIO, the Military Services, and DISA.

¹¹ Noncore data centers are IPNs, SPPNs, and Tactical/Mobile Processing Nodes.

DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013.

Finding A

DoD Did Not Meet the FDCCI Requirement

DoD did not meet the FDCCI requirement to consolidate 40 percent of its data centers by yearend FY 2015. Of the 3,115 data centers reported in DCIM at yearend FY 2015, only 568 (18 percent) were reported as closed. This occurred because the DoD CIO did not revise its strategy to reduce data centers by 40 percent after OMB revised the data center definition to include smaller facilities. In addition, the DoD CIO did not enforce compliance with the DoD requirement of one IPN per installation. As a result, DoD will not reduce its energy and real estate footprint or achieve the cost savings as intended by the FDCCI. In addition, even with the planned closure of 796 additional data centers from FY 2016 through FY 2018,¹³ only 1,364 (44 percent) will be closed and DoD will not meet its internal goal to reduce the number of data centers by 60 percent by yearend FY 2018.

Minimal Progress Consolidating DoD's Data Centers

DoD had reduced the number of data centers by only 18 percent.

DoD did not consolidate its data centers by 40 percent in accordance with the FDCCI. Specifically, as of September 30, 2015, DoD had reduced the number of data centers by only 18 percent.¹⁴ Table 1 shows the progress of each Military Service, DISA, and all other DoD Components in consolidating data centers, as reported in DCIM.

¹³ Planned additional closures as of September 30, 2015.

¹⁴ As of December 31, 2015, DoD closed an additional 32 data centers. However, the data center inventory increased from 3,115 to 3,345. This increase did not affect the closure percentage.

Component	Number of Data Centers	Number of Data Centers Closed	Percentage of Data Centers Closed ¹
Army	1,162	352	30
Marine Corps	90	11	12
Navy	307	47	15
Air Force	1,088	69	6
DISA	24	7	29
All Other DoD Components	444	82	18
Total	3,115	568²	18

Table 1. DoD Data Center Consolidation Progress (as of September 30, 2015)

No Revised Strategy for Consolidating Data Centers

The DoD CIO did not revise its March 2010 data center consolidation strategy to account for the increased number of data centers after OMB revised the data center definition to include smaller facilities. OMB's revised definition caused the number of data centers managed by DoD to increase from 772 to more than 1,000.15 The

> number continued to increase as DoD Components discovered more data centers based on the revised definition.

DoD did not revise its strategy for meeting FDCCI and DoD data center consolidation requirements in response to the considerable increase in the number of DoD data centers.

However, DoD did not revise its strategy for meeting FDCCI and DoD data center consolidation requirements in response to the considerable increase in the number of DoD data centers. According to DoD CIO officials, the large number of SPPNs comprised the majority of the increase and contributed to DoD's inability to meet the FDCCI requirement. Additionally, the officials stated that SPPNs would prevent DoD from reaching its 60-percent

data center reduction goal.¹⁶ Specifically, of the 1,663 data centers not scheduled to close by FY 2018, 1,096 (67 percent) are SPPNs.

In addition to not revising the strategy after OMB revised the data center definition, DoD did not include a process in its 2011 data center consolidation plan for effectively monitoring Components' progress toward meeting data center consolidation goals. For example, as Components changed consolidation

¹ Numbers are rounded to the next whole number after 0.5 to improve readability.

² This figure reflects data centers that actually closed per DCIM. It does not include 84 data centers that, according to DCIM, had not closed as planned by yearend of FY 2015.

¹⁵ 772 represents the number of data centers DoD managed in FY 2010.

¹⁶ SPPNs are data centers that are associated with infrastructure or equipment, such as simulators and training devices, which cannot be consolidated.

information in DCIM, the DoD CIO did not confirm whether those changes would impact DoD's progress toward data center consolidation goals. Of the 119 data centers we reviewed, data center owners changed closure dates for 19 data centers. However, the DoD CIO did not have a process in place for addressing changes in consolidation status.

DoD CIO Did Not Enforce DoD Consolidation Requirement

The DoD CIO did not enforce compliance with the DoD requirement regarding IPNs. According to a DoD CIO memorandum, 17 DoD installations should not have more than one IPN. As of September 30, 2015, DCIM had 54 installations with more than one IPN. Specifically:

- 2 installations maintained four IPNs each:
- 10 installations maintained three IPNs each; and
- 42 installations maintained two IPNs each.¹⁸

When different Components located on the same installation own multiple IPNs, the DoD CIO requires the installation's executive agent to lead the selection of a single IPN to serve the installation. If Components cannot reach an agreement, the DoD CIO will select the IPN for the installation. However, some DoD installations, such as Fort Belvoir, Virginia, with four IPNs, were still waiting for the DoD CIO to determine which Component would maintain the single IPN.

Footprint Reduction and Cost Savings Not Achieved

Because DoD did not reduce the number of data centers by 40 percent, DoD could not reduce its energy and real estate footprint or achieve the cost savings as outlined in the FDCCI. Specifically, DoD could not determine whether it achieved the \$680 million cost savings by FY 2015 as initially planned because it could not calculate efficiencies or cost savings related to the data center consolidation. In addition, DoD might not reach its goal to reduce the number of data centers by 60 percent by yearend FY 2018 if it does not actively monitor consolidation efforts and enforce compliance with requirements for data center consolidation. Table 2 shows the number of data centers DoD plans to close from FY 2016 through FY 2018. Even with the additional planned closures, DoD will not meet its data center reduction goals.

¹⁷ DoD CIO Memorandum, "Department of Defense Joint Information Environment: Continental United States Core Data Center and Application and System Migration," July 11, 2013.

¹⁸ See Appendix B for a list of installations with multiple IPNs.

Component	Number of Data Centers as of FY 2015	Number of Data Centers Closed as of FY 2015	Additional Data Centers to Close by FY 2018	Total Percentage of Data Centers Closed by FY 2018 ¹
Army	1,162	352	140	42
Marine Corps	90	11	17	31
Navy	307	47	67	37
Air Force	1,088	69	519	54
DISA	24	7	1	33
All Other DoD Components	444	82	52	30
Total	3,115	568 ²	796	44

Table 2. DoD Data Center Consolidation Plans From FY 2016 Through FY 2018

Management Comments on the Finding and **Our Response**

Defense Information Systems Agency Comments

The DISA CIO stated that DISA does not agree with OMB's definition of a data center because it is too broad and includes any facility with a closet, room, floor, or building required to enable workstations or extend network connectivity. He requested that the report highlight the data center definition as a DoD challenge instead of highlighting non-compliance "for a standard that was not defined properly and is commercially and governmentally unacceptable." The DISA CIO also recommended that the DoD Office of Inspector General work with subject matter experts to rewrite the data center definition to ensure that Components could execute the intent of the law and effectively measure efficiencies.

Our Response

We acknowledge that the revised data center definition includes a broad range of facilities, spaces, and equipment and that the revision was one of the reasons DoD did not comply with the FDCCI. However, the DoD CIO directed DoD Components, including DISA, to implement plans to meet the FDCCI requirements based on the revised definition. OMB developed the data center definition (original and revised), which applies to all Federal Government agencies. Although the DISA CIO recommended that we work to rewrite the data center definition, the responsibility to develop policy for Federal agencies resides with the OMB regarding this matter, not DoD OIG.

¹ Numbers are rounded to the next whole number after 0.5 to improve readability.

² This figure reflects data centers that actually closed per DCIM. It does not include 84 data centers that, according to DCIM, had not closed as planned by yearend of FY 2015.

Department of the Navy Comments

The Acting DON CIO stated that the report did not address the FDCCI original goal of closing 800 data centers across the entire Federal Government in 2011 or identify the portion of that goal attributable to DoD. In addition, the Acting DON CIO stated that DoD's closure of 568 data centers by September 30, 2015, and the planned closures of an additional 796 data centers by yearend FY 2018 should have been acknowledged as a contribution toward FDCCI's original goal of closing 800 data centers.

The Acting DON CIO also stated that the report did not give the Navy and Marine Corps credit for reducing their number of data centers prior to FDCCI through theater transformations, base realignments, base closures, and data center downsizing and decommissioning. As a direct result of these efforts, the Acting DON CIO stated that the Navy and Marine Corps now own only 13 percent of the total number of data centers across DoD despite being about 30 percent of the total its force structure. As such, the Acting DON CIO stated that the Navy should not have been required to meet the same 40-percent goal as the other Services.

Our Response

OMB originally established a goal of reducing the number of data centers by 40 percent by closing 800 data centers across the Federal Government by yearend FY 2015. However, that goal did not include a specific number of data centers attributable to DoD. In 2012, OMB revised the data center definition to include smaller facilities. The revised definition did not result in a change to the 40 percent reduction goal, but changed the original goal of 800 planned closures. The DoD CIO issued the Data Center Reference Architecture defining DoD's expectations for closing data centers after OMB revised its data center definition. The Data Center Reference Architecture states the revised data center definition caused the number of data centers managed by DoD to increase to more than 1,000 from the original count of 772. As previously reported and acknowledged by the Acting DON CIO, DoD closed 568 data centers by yearend FY 2015 and planned to close at least 796 additional facilities between FY 2016 and yearend FY 2018. Of those closures, the Navy closed about 15 percent and the Marine Corps closed about 12 percent of their respective data centers. The Navy and Marine Corps' data center closures did not meet DoD's 40 percent reduction goal expected for each Component.

We commend the Navy and Marine Corps for proactively reducing their number of data centers before 2010; however, DoD did not include and report those closures as part of its efforts to meet the FDCCI goals. As such, we reported only on the number of data centers closed between FY 2010 and FY 2015.

Recommendations, Management Comments, and **Our Response**

Recommendation A

We recommend the Chief Information Officer, DoD:

1. Revise DoD's strategy for data center consolidation to account for the significant increase in the number of data centers. The revised strategy should also include a process for addressing changes in consolidation status that would impact DoD's progress toward meeting data center consolidation requirements.

DoD Chief Information Officer Comments

The DoD CIO agreed stating that he is taking steps to revise the DoD strategy for data center consolidation, which should be completed by yearend FY 2016. He stated that DoD is integrating its approach for data center consolidation and cloud computing into a single "compute and storage strategy." The DoD CIO stated this approach would revise the DoD data center consolidation strategy to account for the increase in the number data centers. The DoD CIO also stated that DoD was seeking relief from OMB to exclude SPPNs from its data center consolidation metrics because SPPNs could not be severed from the facilities or equipment they supported.

Our Response

Comments from the DoD CIO addressed all specifics of the recommendations and no further comments are required.

2. Perform a review of installations with multiple Installation Processing Nodes and work with executive agents at installations to select a single Installation Processing Node.

DoD Chief Information Officer Comments

The DoD CIO neither agreed nor disagreed with the recommendation. He stated however, that he planned to work with the Services to reconcile instances of multiple IPNs on individual bases. The DoD CIO added that DoD has until yearend FY 2018 to complete these actions and therefore, DoD was not delinquent on meeting the requirement.

Our Response

We disagree that DoD has until yearend FY 2018 to reconcile instances of multiple IPNs on individual bases. DoD CIO Memorandum, "DoD Component Data Center Consolidation Implementation Plans," July 11, 2013, which directs a single IPN per individual base, does not contain a suspense date to complete the requirement. However, DoD CIO planned actions to work with the Services to reconcile instances of multiple IPNs meet all specifics of the recommendation and no further comments are required.

Finding B

DoD Components Did Not Report Accurate Data Center Information

DoD Components did not accurately report data center information to the DoD CIO. Specifically, DCIM information was not accurate for 68 of the 119 data centers we reviewed. This occurred because the DoD CIO did not issue clear guidance on recording and updating DCIM data. In addition, the DoD CIO and Component CIOs did not implement an effective process to validate DCIM accuracy. As a result, DoD reported inaccurate information on its data center consolidation progress to OMB and other stakeholders. Inaccurate reporting increases the risk of inappropriately assessing DoD's cost savings and efficiencies gained through consolidation efforts.

DCIM Information Was Not Accurate

DoD Components did not accurately report data center information to the DoD CIO. According to a DoD CIO memorandum,¹⁹ Components were required to input data center inventory and consolidation milestones in DCIM by April 30, 2015. As of April 30, 2015, the DoD CIO considered DCIM data valid and used it to report closures, operating costs, and other metrics to DoD and OMB. However, of the 119 data centers we reviewed, DCIM information was not accurate for 68. Specifically,

Of the 119 data centers we reviewed, DCIM information was not accurate for 68.

- Of the 42 Army data centers we reviewed, 24 did not accurately report closure status, server count, or personnel information in DCIM. For example, Aberdeen Proving Ground, Maryland, closed one of its data centers in May 2015. However, DCIM was not updated to reflect the closure and still indicated that the data center would close in the first quarter of FY 2017.
- Of the 33 Marine Corps data centers we reviewed, 19 did not accurately report closure status, server count, or personnel information in DCIM. For example, DCIM showed 110 personnel supporting a Camp Pendleton, California, data center. However, the data center owner stated that, based on the number of personnel hours reported, only about 60 personnel supported the data center.

DoD CIO Memorandum, "Changes in DoD Data Center Inventory and Consolidation Implementation Plan Reporting Requirements," March 31, 2015.

- Of the 40 Navy data centers we reviewed, 23 did not accurately report closure status, server count, personnel, or data center designation information in DCIM. For example, Department of the Navy's Space and Naval Warfare Systems Command, California, reported 565 operating systems and 565 virtual operating systems in DCIM. However, the data center owner could provide evidence supporting the existence of only 20 operating systems²⁰ and 1 virtual operating system.²¹
- Of the four DISA data centers we reviewed, two did not accurately report server count information in DCIM. Specifically, we identified two data centers that DISA did not report to the DoD CIO: one in Chambersburg, Pennsylvania, and one at Scott Air Force Base, Illinois. The DISA Continental U.S. Deputy Commander acknowledged they did not accurately report data center activity because they did not fully understand the original definition of a data center. After providing the Deputy Commander the revised data center definition, he acknowledged that the site was a data center. In addition, the Defense Information Technology Contracting Organization reported a data center as closed with no inventory in DCIM. However, the data center was still operating and DISA had no immediate plans to close it.

We did not include the Air Force in our sample because an Air Force CIO official acknowledged the Air Force severely underreported data center information in DCIM. For example, on May 28, 2015, the Air Force reported 563 data centers in DCIM. By September 30, 2015, that number had almost doubled to 1,088.

DCIM Guidance Was Not Clear

The DoD CIO did not issue clear guidance to DoD Components on recording and updating data center information in DCIM. Instead, the DoD CIO relied on Component CIOs to communicate data center consolidation requirements discussed during working group meetings to data center owners and did not revise existing DoD CIO policy. Although data center owners visited were aware of the data center consolidation initiative, they were not always aware of the DCIM reporting requirements. Data center owners were not provided clear instructions to report data center information to Component CIOs. Because the DoD CIO used DCIM data to update OMB and other stakeholders on DoD's data center consolidation progress, data center owners needed clear guidance for reporting accurate and complete data center information to Component CIOs.

An operating system is the software that controls the execution of other computer programs, schedules tasks, allocates storage, manages the interface to peripheral hardware, and presents a default interface to the user when no application program is running.

²¹ An operating system that hosts other operating systems.

Effective Validation Process Needed

The DoD and Component CIOs did not implement an effective process to validate the accuracy of DCIM data. Instead, according to the DoD CIO data center consolidation lead, the DoD CIO relied on Component CIOs to ensure data center information was accurate in DCIM. The Component CIOs then relied on data center owners to submit accurate data center information. According to the DoD CIO memorandum,²² Components were required to ensure the accuracy and completeness of data center inventory in the DCIM system by April 30, 2015. After this date, the DoD CIO considered the data in DCIM valid. However, the DoD CIO did not perform steps to validate data center information before accepting the DCIM data as valid or establish a process to periodically validate the data. Consequently, the information reported to OMB and other stakeholders was inaccurate.

Consolidation Reporting Was Not Accurate

The DoD CIO used DCIM to report data center closures to OMB. The information was used to calculate the total cost of owning data centers and to make critical funding decisions related to DoD's IT infrastructure. The reporting of inaccurate and incomplete DCIM data increases the risk that Congress and other stakeholders could inappropriately assess the Department's cost savings and efficiencies gained through consolidating data centers.

Recommendations, Management Comments, and **Our Response**

Redirected Recommendation

As a result of management comments, we redirected Recommendation B.2 to the Department of the Navy CIO because the CIO has the authority to implement the recommendation for Deputy CIO-Navy and Deputy CIO-Marine Corps actions.

Recommendation B.1

We recommend the Chief Information Officer, DoD:

- a. Develop and issue comprehensive guidance for accurately reporting data center information in the Data Center Inventory Management to **DoD Components.**
- b. Develop a process for validating the accuracy and completeness of information in the Data Center Inventory Management system.

²² DoD CIO Memorandum, "Changes in DoD Data Center Inventory and Consolidation Implementation Plan Reporting Requirements," March 31, 2015.

DoD Chief Information Officer Comments

The DoD CIO neither agreed nor disagreed with the recommendation. He stated however, that he was analyzing existing policies and guidance and would enhance them as necessary by yearend FY 2016. The DoD CIO also stated he was working with the Components to improve processes for validating the accuracy of data center inventory reported to OMB. The DoD CIO expected to complete these actions by the second quarter of FY 2017.

Our Response

Comments from the DoD CIO addressed all specifics of the recommendation and no further comments are required.

Recommendation B.2

We recommend the Chief Information Officer, Department of the Army; Department of the Navy Chief Information Officer; Chief Information Officer, Office of the Secretary of the Air Force; and Chief Information Officer, Defense Information Systems Agency revise their current processes for validating data center information to ensure the accuracy and completeness of information reported to the DoD Chief Information Officer.

Department of the Army Deputy Chief Information Officer Comments

The Army Deputy CIO, responding for the Army CIO, agreed stating the Army would continue to work with the DoD CIO to address data center deficiencies and to update DCIM. However, he stated that there will always be a "lag" in DCIM updates once a data center is closed because DCIM is updated only after the Army CIO receives a signed closure report from a general officer or senior executive. The Army Deputy CIO requested that the DoD Office of Inspector General provide the Army CIO with the identification numbers for the Aberdeen Proving Ground, Maryland, data centers to determine the discrepancies in DCIM. In addition, the Army Deputy CIO requested we change Fort Belvoir, Maryland in Appendix B to Fort Belvoir, Virginia.

Our Response

We acknowledge delays occurred between the time the Army closed data centers and when DCIM was updated. We will provide the Army CIO the identification numbers for the 24 data centers that did not accurately report closure status, server count, or personnel information in DCIM to review for correction. In addition, we changed Appendix B to show Fort Belvoir, Virginia instead of Fort Belvoir, Maryland. Comments from the Deputy CIO addressed all specifics of the recommendation and no further comments are required.

Department of the Navy Chief Information Officer Comments

The Acting DON CIO agreed stating that she issued updated policy regarding data center fund obligations in Memorandum "Approvals/Waivers for Obligation of Funds for Data Servers and Centers," September 1, 2015. The policy stops DON activities from initiating IT procurement actions for data centers unless the DON CIO verifies that data center information is accurately and fully reported to the DoD CIO. The Acting DON CIO also stated that she would work with the DON Deputy CIO–Navy and DON Deputy CIO–Marine Corps to implement additional internal verification processes, to include initiating data center discovery and reporting, to improve the accuracy and completeness of Navy and Marine Corps data center information reported to the DoD CIO.

Our Response

Comments from the DON CIO addressed all specifics of the recommendation and no further comments are required.

Air Force Chief Information Officer Comments

The Chief, Air Force Information Dominance and CIO neither agreed nor disagreed with the recommendation. He stated however, that the Air Force issued the following three memorandums to improve the accuracy and completeness of data reported to the DoD CIO.

- Data Center Consolidation Strategic Communication, July 16, 2015. The
 Air Force outlined its way forward in consolidating data centers including
 updating DCIM, consolidating to a single IPN, and verifying the accuracy of
 closure dates in DCIM.
- Data Center Inventory Management (DCIM) Data Cleanup, August 18, 2015. The Air Force required all data center owners to register in DCIM within 60 days of the memorandum's issuance otherwise the CIO would block or deny future funding; and review and verify data center information every 6 months and report required changes.
- Obligation of Funds for Data Centers and Servers, January 20, 2016. The Air Force reminded contracting officers and Program Executive Officers of existing guidance on the obligation approval process and warned that contracting actions acquiring items without CIO approval, to include acquisitions related to data center inventory, would be stopped.

Our Response

Although the Air Force CIO neither agreed nor disagreed with the recommendation, actions taken met the intent of the recommendation. Therefore, no further comments are required.

Defense Information Systems Agency Chief Information Officer Comments

The DISA CIO partially agreed, stating that DISA would provide clear guidance for DCIM and data center reporting requirements by developing instructions and issuing articles to help disseminate information across the agency. The DISA CIO also stated that each data center owner would be required to identify a point of contact to ensure, on a semiannual basis, that information in the DCIM system was valid and accurate. In addition, he stated that DISA would continue to issue data center validation reports and monitor compliance during annual spot checks of all DISA facilities. The DISA CIO stated that DISA plans to complete these process revisions no later than fourth quarter FY 2016. Further, the DISA CIO stated that DISA does not consider the facilities in Chambersburg and Scott Air Force Base to be data centers because they are operational units conducting cybersecurity missions.

Our Response

Although the DISA CIO partially agreed with the recommendation, actions taken to provide clear guidance for DCIM and data center reporting requirements addressed the intent of the recommendation. However, we disagree that the facilities in Chambersburg and Scott Air Force Base (DISA Continental United States) are not data centers. The equipment and infrastructure at these facilities met OMB's revised data center definition. For example, the facility in Chambersburg had 29 servers, seven of which supported the local area network in the same facility, while the facility in Scott Air Force Base had 70 physical servers and 30 virtual servers. While onsite at Scott Air Force Base, the Deputy Commander, DISA Continental United States, acknowledged his facility was a data center based on OMB's revised data center definition. The OMB revised definition does not include "mission" as a factor in determining whether a facility is, or is not, a data center. Therefore, the DISA CIO should report the Chambersburg and Scott Air Force Base facilities as data centers in DCIM. We request that the DISA CIO reconsider his position and designate the facilities as data centers and ensure that DCIM is updated accordingly. We request that the DISA CIO provide additional comments on the final report on his plan to report these data centers to the DoD CIO.

Appendix A

Scope and Methodology

We conducted this performance audit from March 2015 through January 2016 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.

To understand the Department's progress in consolidating data centers, we interviewed officials from the:

- DoD CIO:
- Department of the Army CIO;
- Marine Corps Command, Control, Communications, and Computers Department;
- Department of the Navy CIO;
- Secretary of the Air Force Information Dominance and CIO; and
- DISA CIO.

We reviewed Federal laws and Department policy, including DoD CIO guidance and Military Service guidance. We selected a nonstatistical sample of 132 of 1,497 data centers owned by the Army, Marine Corps, and Navy.²³ We reviewed the status of 115 of the 132 data centers from February 2010 through September 2015 (we did not review 17 Army data centers because there was sufficient evidence to support the finding). In addition, we identified four data centers owned by DISA that were not recorded or updated in DCIM, and reviewed the status of those data centers. As a result, we reviewed 119 data centers at the following DoD installations:

- · Aberdeen Proving Ground, Maryland
- Naval Air Station North Island, California
- Naval Base Point Loma, California
- Naval Base San Diego, California
- Naval Base Coronado, California
- Naval Outlying Landing Field Imperial Beach, California
- Marine Corps Base Quantico, Virginia
- Marine Corps Base Camp Pendleton, California

²³ We did not include the Air Force in the sample because an Air Force CIO official acknowledged the Air Force severely underreported the number of data centers the Air Force owns and operates.

- Marine Corps Air Station Miramar, California
- DISA Risk Management Executive and Implementation and Sustainment Center, Chambersburg, Pennsylvania
- DISA Continental U.S. and Defense Information Technology Contracting Organization, Scott Air Force Base, Illinois

We interviewed data center owners at each site to determine the status of data center consolidation from February 2010 through September 2015. We also reviewed lists of data center inventory, approval documentation for data center designation, and other supporting documentation on efforts toward data center consolidation. Furthermore, we compared the status of data center consolidation and the inventory lists to determine the accuracy and completeness of DCIM

Use of Computer-Processed Data

We used computer-processed data from DCIM, which the DoD CIO used to track DoD data centers and their consolidation status, including personnel, closure status, implementation dates, and IT inventory. DCIM data were extracted as Microsoft Excel spreadsheets that included consolidation data and physical locations of the data centers. We used DCIM data to obtain a universe of data centers managed by DoD, data center designations, consolidation status, and IT inventory. To assess the reliability of DCIM data, we selected a sample of data centers and compared the DCIM data to information obtained from data center owners and from physical inspections.

We also used information reported in the Army Data Center Consolidation Plan (ADCCP) tracking tool, which the Army CIO used to capture data center consolidation information such as data center name, location, DoD ID number, data center description, closure information, challenges, and IT inventory. The Army CIO used the ADCCP data to update DCIM. We used ADCCP data to understand the data center mission, purpose, and data center designation. We compared data in ADCCP to data recorded in DCIM to identify discrepancies in data center records. To assess the reliability of ADCCP data, we compared information obtained from interviews with Army data center owners and from inspections of DCIM data.

Information in DCIM and ADCCP was not sufficiently reliable to determine the status of DoD's data center consolidation. Specifically, personnel from the DoD CIO and Component CIOs informed us that the DCIM universe was not accurate. In addition, data center designations, closure status, and data center IT inventory did not always match information provided by data center owners. As reported in our findings, we used the information to generate a sample of data centers to visit and developed recommendations for implementing controls to validate the accuracy and validity of DCIM data.

Use of Technical Assistance

The DoD OIG Quantitative Methods Division assisted with the nonstatistical sampling method that we used to select the data centers to visit.

Prior Coverage

During the last 5 years, the Government Accountability Office (GAO) and the Army Audit Agency issued nine reports related to DoD's efforts to consolidate data centers. Unrestricted GAO reports can be accessed at http://www.gao.gov and unrestricted Army Audit Agency reports can be accessed at http://www.aaa.army.mil.

GAO

Report No. GAO-15-296, "Information Technology: Additional OMB and Agency Actions Needed to Ensure Portfolio Savings Are Realized and Effectively Tracked," April 16, 2015

Report No. GAO-14-713, "Data Center Consolidation: Reporting Can Be Improved to Reflect Substantial Planned Savings," September 25, 2014

Report No. GAO-13-627T, "Data Center Consolidation: Strengthened Oversight Needed to Achieve Billions of Dollars in Savings," May 14, 2013

Report No. GAO-13-378, "Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal," April 23, 2013

Report No. GAO-12-742, "Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed," July 19, 2012

Report No. GAO-12-241, "Information Technology: Departments of Defense and Energy Need to Address Potentially Duplicative Investments," February 17, 2012

Report No. GAO-11-565, "Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings," July 19, 2011

Army Audit Agency

Report No. A-2013-0023-FMT, "Audit of Army Data Center Consolidation," December 12, 2012

Report No. A-2011-0143-IET, "Application Migration," July 6, 2011

Appendix B

List of Installations With Multiple IPNs

Although the DoD CIO issued policy stating that DoD installations²⁴ could not have more than one IPN, the following 54 installations maintained multiple IPNs.

Table 3. Installations with Multiple IPNs

Base Location	Number of IPNs	Base Location	Number of IPNs
Fort Belvoir, Virginia	4	Detroit Arsenal, Michigan	2
Andrews Air Force Base (AFB), Maryland	4	Port Hueneme, California	2
Rome, New York	3	Eielson AFB, Arkansas	2
Redstone Arsenal, Alabama	3	Little Rock AFB, Arkansas	2
Naval Air Station Joint Reserve Base New Orleans, Louisiana	3	Elmendorf AFB, Arkansas	2
Fort Bragg, North Carolina	3	Marine Corps Base Quantico, Virginia	2
Warner Robins AFB, Georgia	3	Fort Benning, Georgia	2
Fort George G. Meade, Maryland	3	Minot AFB, North Dakota	2
Shaw AFB, South Carolina	3	Fort Buchanan, Puerto Rico	2
Fort Sam Houston, Texas	3	Naval Air Weapons Station China Lake, California	2
Minneapolis-St Paul, Minnesota	3	Fort Huachuca, Arizona	2
Louisville, Kentucky	3	Niagara Falls, New York	2
Naval Support Activity Crane, Indiana	2	Fort Leavenworth, Kansas	2
McConnell AFB, Kansas	2	Naval Station Pearl Harbor, Hawaii	2
Rock Island Arsenal, Illinois	2	Fort Lee, Virginia	2
Buckley AFB, Colorado	2	NSA Philadelphia, Pennsylvania	2
Naval Base Point Loma, California	2	Fort Polk, Louisiana	2
Charleston AFB, South Carolina	2	Andersen AFB, Guam	2
Pentagon Reservation, Virginia	2	Fort Worth, Texas	2
Cheyenne, Wyoming	2	Peterson AFB, Colorado	2
Maxwell AFB, Alabama	2	Homestead Air Reserve Base, Florida	2
Clay Kaserne, Germany	2	Red River Army Depot, Texas	2

 $^{^{24}\,\,}$ For the purposes of this report, Base Location and installation mean the same thing.

Table 3. Installations with Multiple IPNs (cont'd)

Base Location	Number of IPNs	Base Location	Number of IPNs
Naval Air Station Jacksonville, Florida	2	Kirtland AFB, New Mexico	2
Columbus, Ohio	2	U.S. Army Kwajalein Atoll, Marshall Island	2
Naval Station Guantanamo Bay, Cuba	2	Langley AFB, Virginia	2
Coraopolis, Pennsylvania	2	March AFB, California	2
Offuttt AFB, Nebraska	2	Hanscom AFB, Massachusetts	2

The DoD CIO memorandum²⁵ requires that DoD CIO select one IPN per installation in instances where different Components own multiple IPNs and cannot reach an agreement on a single IPN. This report includes a recommendation for the DoD CIO to review installations with multiple IPNs, work with executive agents at installations to select a single IPN, and facilitate the closure of additional IPNs. (See Finding A)

DoD CIO Memorandum, "Department of Defense Joint Information Environment: Continental United States Core Data Center and Application and System Migration," July 11, 2013.

Management Comments

DoD Chief Information Officer Comments

Final Report Reference



DEPARTMENT OF DEFENSE

6000 DEFENSE PENTAGON /ASHINGTON, D.C. 20301-6000

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE

SUBJECT: Draft Report "DoD's Efforts to Consolidate Data Centers Need Improvement" (Project No. D2015-D000RC-0137.000)

Reference: (a) DoD IG Memorandum Requesting Department of Defense Chief Information Officer (DoD CIO) Review and Comment on Draft Report "DoD's Efforts to Consolidate Data Centers Need Improvement" (Project No. D2015-D000RC-0137.000), dated January 29, 2016

(b) DoD CIO Memorandum, "DoD Component Data Center Consolidation Implementation Plans", dated July 11, 2013

DoD CIO reviewed the DoD IG Draft Report, "DoD's Efforts to Consolidate Data Centers Need Improvement" (Project No. D2015-D000RC-0137.000), in response to Reference (a). Although DoD does not agree with every aspect of the report findings, DoD does agree more aggressive action is required to achieve Data Center Consolidation (DCC) objectives and accepts the DoD IG recommendations.

In response to Recommendation A.1, revise strategy for data center consolidation to account for significant increase in the number of data centers, DoD CIO is taking steps to address this. For instance, the Department is integrating approaches for DCC and cloud computing into a single Compute and Storage Strategy. This will revise the DoD DCC Strategy to account for the increase in the number of data centers (specifically Special Purpose Processing Nodes (SPPNs)) and cloud computing's impact on those numbers. Additionally, as shared with the DoD IG audit team, DoD CIO is seeking relief from the Office of Management and Budget (OMB) for the inclusion of SPPNs in the DCC metrics; SPPNs are largely non-severable from the facilities or equipment they support, and therefore, present very limited consolidation opportunity. The estimated date of completion for this revised strategy is the end of FY16.

In response to Recommendation A.2, perform review of installations with multiple Installation Processing Nodes (IPNs), DoD CIO is reviewing and working directly with the Services to reconcile the instances of multiple IPNs on individual Bases/Posts/Camps/Stations. It is important to note, according to Reference (b), the suspense for Components to reconcile instances of multiple IPNs is FY18, and therefore, is not delinquent. Estimated date of completion remains FY18.

In response to Recommendation B.1.a, develop comprehensive guidance for accurately reporting data center information in the Data Center Inventory Management (DCIM) system, DoD CIO is performing an analysis of existing policies and guidance and will enhance them, as necessary. Estimated date of completion is end of FY16.

DoD Chief Information Officer Comments (cont'd)

Final Report Reference

In response to I completeness of informand improve the process reported to OMB. Esti	ses for validating	DoD CIO is worki	ng with Componer	ing the accuracy and ints to further refine center inventory	
The point of co	ntact for this mat	ter is			
		Terry A	Halvorsen		

Department of the Army Deputy Chief Information Officer Comments

Final Report Reference



DEPARTMENT OF THE ARMY OFFICE OF THE SECRETARY OF THE ARMY 107 ARMY PENTAGON WASHINGTON DC 20310-0107

SAIS-AOC

MEMORANDUM FOR Department of Defense Inspector General, 4800 Mark Center Drive, Alexandria, VA 22350-1500

SUBJECT: Department of Defense Inspector General Draft Report, "DoD's Efforts to Consolidate Data Centers Need Improvement," (Project No. D2015-D000RC-0137.000)

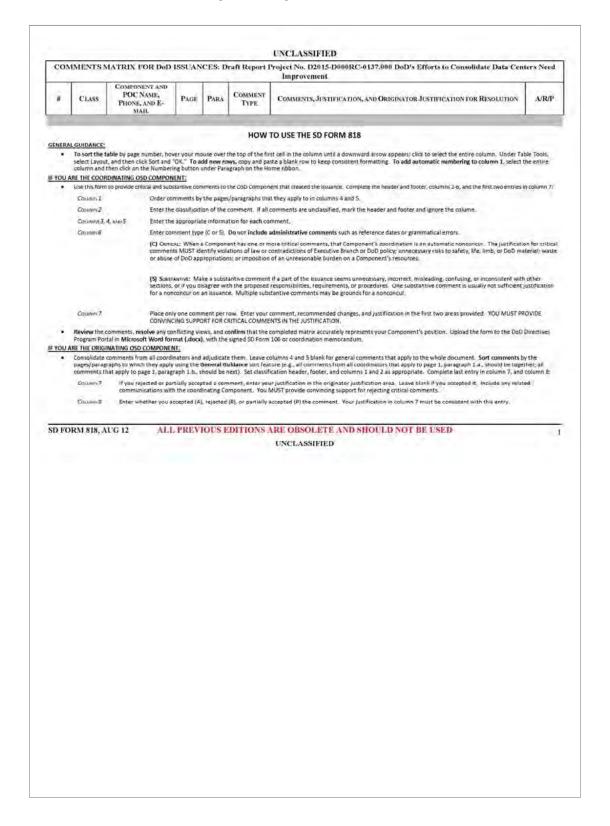
- 1. Reference: Draft Report, Department of Defense Inspector General, 29 January 2016, subject: DoD's Efforts to Consolidate Data Centers Need Improvement (Project No. D2015-D000RC-0137.000).
- 2. The Army Chief Information Officer/G-6 appreciates the opportunity to review the Inspector General's draft report on data center consolidation. The Army CIO/G-6 concurs with comments, which are enclosed.
- 3. The Army will continue to work with the DoD CIO to correct the noted deficiencies, including accuracy of the information in the DoD Data Center Inventory Management system.
- 4. The Army CIO/G-6 point of contact for this audit is WANG.GARY Date: 2016.03 16 18:42 08 -04'00'

Encl

GARY C. WANG Deputy Chief Information Officer/G-6

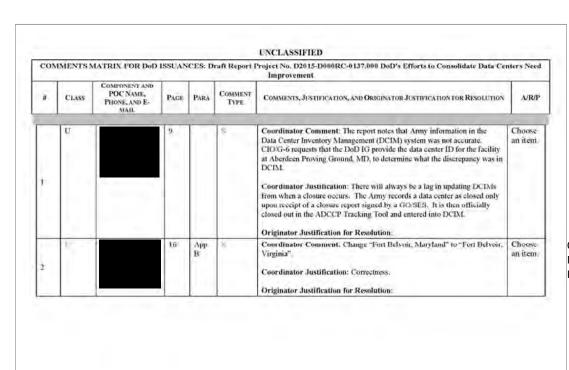
Department of the Army Deputy Chief Information Officer Comments (cont'd)

Final Report Reference



Department of the Army Deputy Chief Information Officer Comments (cont'd)

Final Report Reference



Changed Fort Belvoir, Maryland to Fort Belvoir, Virgina

SD FORM 818, AUG 12 ALL PREVIOUS EDITIONS ARE OBSOLETE AND SHOULD NOT BE USED UNCLASSIFIED

Department of the Navy Chief Information Officer Comments

Final Report Reference



DEPARTMENT OF THE NAVY CHIEF INFORMATION OFFICER 1000 NAVY PENTAGON WASHINGTON, DC 20350-1000

26 February 2016

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL

Subj: RESPONSE TO DOD IG DRAFT REPORT, "DOD'S EFFORTS TO CONSOLIDATE DATA CENTERS NEED IMPROVEMENT," (PROJECT NO D2015-D000RC-0137.000)

Ref: (a) DoD Inspector General (IG) Memorandum, "DoD's Efforts to Consolidate Data Centers Need Improvement," of January 29, 2016

(b) DON Chief Information Officer Memorandum, "Approvals/Waivers for Obligation of Funds for Data Servers and Centers," of September 01, 2015

Encl: (1) DON CIO Comment Matrix for Subject Report

Reference (a) requested Department of the Navy Chief Information Officer (DON CIO) review and comment on recommendation B.2 of the Department of Defense Inspector General (DoD IG) draft report, "DoD's Efforts to Consolidate Data Centers Need Improvement (Project No. D2015-D000RC-0137.000)."

The DON CIO agrees with recommendation B.2; all DoD Components should revise their current processes for validating data center information to ensure the accuracy and completeness of information reported to the DoD Chief Information Officer.

DON CIO has already taken action to support the recommendation, including reference (b), which established updated policy for approval and waivers for obligation of funds for data servers and centers. The memorandum provided the Navy and the Marine Corps with amplifying guidance, standardized forms, designated tools, and streamlined processes for submitting data server and data center related obligation requests, which will ensure the DON's continued full compliance with Section 2867 of the FY12 National Defense Authorization Act.

DON CIO has also worked with the DON Deputy CIO Navy (DDCIO Navy) and DON Deputy CIO Marine Corps (DDCIO Marine Corps) to refine the Department's Information Technology Procurement Request (ITPR) approval processes to provide greater detail on all IT related expenditures. DON CIO reviews every Navy and Marine Corps ITPR that is associated with a data server or data center obligation during the NDAA waiver request process. Policy, processes, and oversight are firmly in place to ensure that no procurement action for IT associated with a data server or data center is initiated within the DON that has not received both an ITPR and an NDAA waiver approval, which includes DON CIO verification that the data center facility is accurately and fully reported to DoD CIO.

DON CIO will work with DDCIO Navy and DDCIO Marine Corps to develop and implement additional data center information validation methods, including conducting more onsite inspections and deploying IT Asset Management (ITAM) data discovery and reporting tools as they become available. DON CIO will also continue to collaborate with DoD CIO on

Department of the Navy Chief Information Officer Comments (cont'd)

Final Report Reference

Subj: NDAA WAIVER APPROVAL FOR DATA CENTER PROCUREMENT REQUESTS

improvement of the processes and tools used for validating and ensuring the accuracy and completeness of data center information reported by the Navy and Marine Corps.

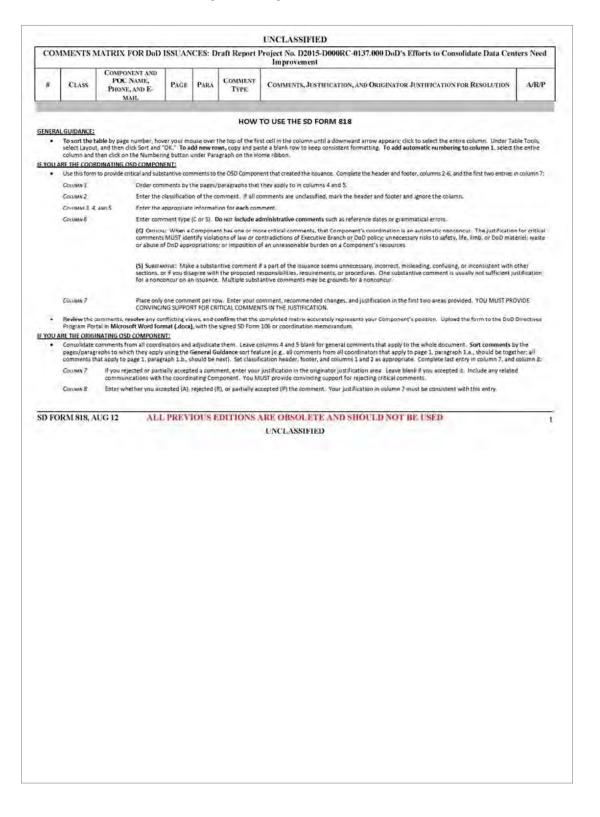
Additional comments on the DoD IG draft report are provided in Enclosure (1). The DON CIO point of contact for this audit is or who may be reached at

Department of the Navy

Chief Information Officer (Acting)

Department of the Navy Chief Information Officer Comments (cont'd)

Final Report Reference



Department of the Navy Chief Information Officer Comments (cont'd)

Final Report Reference

CO	MMENTS	MATRIX FOR DoD	ISSUAN	CES: D	raft Report	Project No. D2015-D000RC-0137.000 DoD's Efforts to Consolidate Data Cen Improvement	ters Need
#	CLASS	COMPONENT AND POC NAME, PHONE, AND E- MAIL	PAGE	PARA	COMMENT Type	COMMENTS, JUSTIFICATION, AND ORIGINATOR JUSTIFICATION FOR RESOLUTION	A/R/P
1	u		ii	Table	<i>1</i> /2	Coordinator Comment: Add: "Department of the Navy Chief Information Officer" to the Management column and assign them "B.2" in the Recommendations Requiring Comment column. Coordinator Justification: The Department of the Navy Chief Information Officer is missing from the table. Originator Justification for Resolution:	Choose an item
2	V		ü	Table	2	Coordinator Comment: Change "Deputy Department of the Navy Chief Information Officer-Navy, Department of the Navy" to "Department of the Navy Deputy Chief Information Officer - Navy (DDCIO Navy)" Coordinator Justification. Correctness Originator Justification for Resolution:	Choose an item
3	U.	-	ü	Table	5	Coordinator Comment: Change "Deputy Department of the Navy Chief Information Officer-Marine Corps, Department of the Navy" to "Department of the Navy Deputy Chief Information Officer – Marine Corps (DDCIO Marine Corps)" Coordinator Justification: Correctness Originator Justification for Resolution:	Choose an item
1			NA	NA.	0	Coordinator Comment: The draft report fails to mention that the original FDCCI goal set by OMB in July 2011 for the entire Federal Government was to close 800 data center facilities. The report also fails to mention what portion of the 800 was assigned to be DoD data center facilities. Coordinator Justification: The DoD has closed at least 568 data center facilities as of September 30 2015 and intends to have at least 796 facilities elosed by FY 2018 as reported in the Draft DoD IG report. The audit report	Choose an item

Redirected Recommendation B.2 to Department of the Navy CIO

Redirected Recommendation B.2 to Department of the Navy CIO

Redirected Recommendation B.2 to Department of the Navy CIO

UNCLASSIFIED

Department of the Navy Chief Information Officer Comments (cont'd)

Final Report Reference

H	CLASS	COMPONENT AND POC NAME, PHONE, AND E- MAIL	PAGE	PARA	COMMENT TYPE	Improvement COMMENTS, JUSTIFICATION, AND ORIGINATOR JUSTIFICATION FOR RESOLUTION	A/R/P
		- Mate					
						should acknowledge DoD's contribution toward the OMB directed FDCCI goal of 800.	
					1.0	Originator Justification for Resolution:	
			NA	NA	8	Coordinator Comment: The draft report fails to credit the Navy and Marine Corps for significantly reducing their data center numbers prior to FDCCT's commencement in 2010. The draft report also fails to recognize that the Navy and Marine Corps are approximately 31% of the total DoD force structure but have today less than 13% of the total number of data centers remaining in the DoD inventory. That is a direct result of the DON's data center consolidation success prior to FDCCI. Coordinator Justification. The Navy and Marine Corps commenced data center consolidation several years before FDCCI began. Through theater transformation, base realignment, and base closure efforts started in the early 2000's; several data centers were downsized or deconumissioned well before 2010. The deployment of the Navy Marine Corps Intranet (NMCI) network for CONUS and the OCONUS Navy Enterprise Network (ONE-Net) in the late 2000's eliminated additional networks and data center facilities prior to	Choose an item.
						2010. Requiring the same 40% reduction goal of the DON that was assigned to the Army and Air Force based on a 2010 baseline without taking into account the DON's significant data center facility reductions prior to 2010 is unfairly puntitive to the Navy and Marine Corps.	
	1.4	, 11				Originator Justification for Resolution:	
D FC	DRM 818, A	AUG 12 ALL	PREV	IOUS E	DITIONS	ARE ORSOLETE AND SHOULD NOT BE USED UNCLASSIFIED	
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Department of the Air Force Chief Information Officer Comments

Final Report Reference



DEPARTMENT OF THE AIR FORCE WASHINGTON DC

28 February 2016

MEMORANDUM FOR OFFICE OF THE INSPECTOR GENERAL, DOD

FROM: SAF/CIO A6

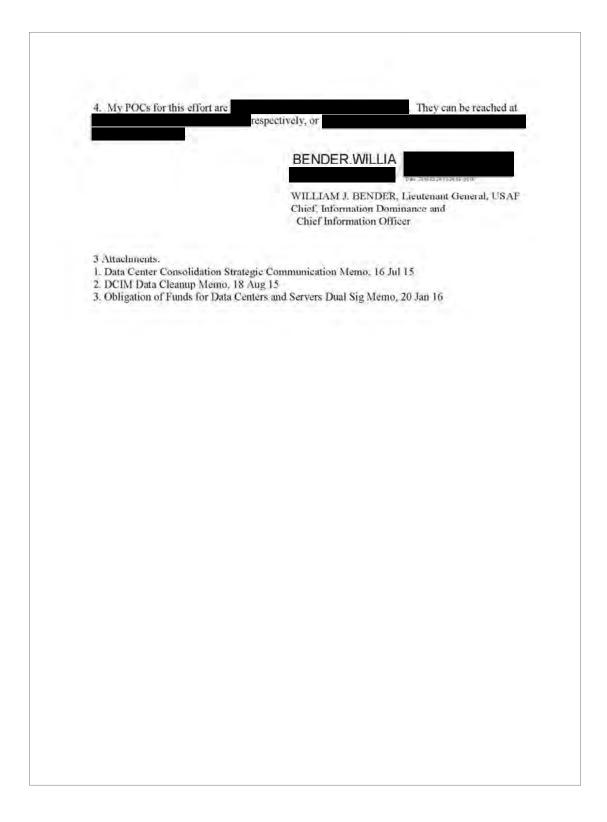
SUBJECT: Draft Report Project No. D2015-D000RC-0137.000 - DoD's Efforts to Consolidate Data Centers Need Improvement

Reference: (a) OIG DOD Draft Report Project No. D2015-D000RC-0137,000, DoD's Efforts to Consolidate Data Centers Need Improvement, 29 January 2016

- 1. Thank you for the opportunity to review and comment on subject report, specifically recommendation B.2. We were aware of shortcomings with our data center inventory and advised you accordingly during the investigation portion of subject project. Moreover, we are committed to providing DoD and OMB timely and accurate information IAW published guidance regarding our data centers.
- 2. To that end, my organization has taken initiatives to improve the quality and completeness of our data. Copies of the following memos are attached:
- a. On 16 July 2015, I issued a strategic communication memorandum to MAJCOM vice commanders (2-star) outlining our way ahead, which included inventory cleanup. This memorandum also stressed that data center consolidation was relevant to all functional areas and should be communicated to all levels within their organization.
- b. On 18 August 2015, I issued another memorandum to MAJCOM vice-commanders asking them to validate data center information by 18 October 2015. I also reminded them that we are required to perform a certification of data every six months and that funding would be blocked for all data centers not accurately registered within the authoritative database.
- c. On 20 January 2016. I teamed with the Senior Acquisition Executive (SAF/AQ) to issue a jointly-signed memorandum to all Air Force contracting officers and Program Executive Officers. This memo reminded them of existing guidance and warned that all contracting actions acquiring relevant items without SAF/CIO A6 approval were to be halted. This approval includes validation and certification of data center inventory information.
- 3. I will continue to press for improvement of the completeness and accuracy of data center information and am committed to ensuring we are appropriately tracking all relevant assets and providing timely reports to the DoD CIO. My POCs are listed below and would be happy to provide additional information regarding our data center initiatives.

Department of the Air Force Chief Information Officer Comments (cont'd)

Final Report Reference



Defense Information Systems Agency Chief Information Final Report Officer Comments



DEFENSE INFORMATION SYSTEMS AGENCY

D. O. BOX 549 FORT MEADE, MARYUMU, 20755-0549

25-Feb-2016

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: DISA's comments to Draft Report on DoD's Efforts to Consolidate Data Centers Need Improvement, January 29, 2016, (Project No. D2015-D000RC-0137)

1. The Defense Information Systems Agency (DISA) has reviewed the draft report referenced above and provides comments as attached. These comments are meant to provide clarity to the recommendations. We thank the DoD IG audit team for the opportunity to participate in this audit and hope we provided useful information to complete this task.

2. We look forward to continuing to work with you and your staff in the future. Any questions your staff may have concerning matters for the recommendations should be directed to

need to further discuss this matter.

Please do not hesitate to contact them should you

HICKEY.JOHN.

JOSEPH.JR.

JOHN J. HICKEY, JR. Chief Information Officer

1 Enclosure DISA Comments to DoD IG

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DOD IG DRAFT REPORT DATED JANUARY 29, 2016 (PROJECT NO. D2015-D000RC-0137.000)

"DOD'S EFFORTS TO CONSOLIDATE DATA CENTERS NEED IMPROVEMENT"

DEFENSE INFORMATION SYSTEMS AGENCY COMMENTS TO DOD IG RECOMMENDATIONS

RECOMMENDATION: The Chief Information Officer, Department of the Army; Deputy Department of the Navy Chief Information Officer-Navy, Department of the Navy; Chief Information Office, Office of the Secretary of the Air Force; Deputy Department of the Navy Chief Information Officer-Marine Corps, Department of the Navy; and Chief Information Officer, Defense Information Systems Agency revise their current processes for validating data center information to ensure the accuracy and completeness of information reported to the DoD Chief Information Officer.

DISA RESPONSE: Partially Concur

DISA still does not agree with the revised OMB definition of a data center "...as a closet, room, floor, or building for the storage, management, and dissemination of data and information that contains computer systems and associated components, such as databases, applications, storage systems, and data stores."

The definition is too broad and includes almost any facility that has a closet required to enable workstations or extend network connectivity. The confusion over this new definition is not even highlighted in the report and instead we want to highlight non-compliance for a standard that was not defined properly and is commercially and governmentally unacceptable.

DISA does not consider Chambersburg, PA a data center. It is an operational unit conducting cybersecurity missions including testing new standards, responding to incidents, inspecting Combatant Commands/Services/Agencies (C/S/A) and red teaming DoD networks. DISA CONUS (Scott AFB) is also an operational unit conducting defensive cyber operation using "big data analytics" that are stored and processed in Defense Enterprise Computing Centers (DECC) facilities not Scott AFB.

DISA has been working with DITCO Scott Data Center Inventory Management (DCIM) entry being labeled as "CLOSED." The older equipment in this building was planned to move several years ago, but technical and performance challenges stopped the execution of the total move of all the equipment. DISA's plan is to conduct the engineering analysis required to support the movement of the remaining items. DCIM will be updated to show "Open" for this DITCO Scott AFB until this project is completed.

Recommend DoD IG highlight the definition as a challenge across DoD and include subject experts in a rewrite of new data center definition to ensure it is executable and measurable as it relates to intent of the law and efficiency that are planned as part of the consolidation.

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DISA will continue to follow the DoD CIO Memorandum "Changes in DoD Data Center Inventory and Consolidation Implementation Plan Reporting Requirements, 31 March 2015." We will provide clear guidance regarding DCIM and data center reporting requirements throughout DISA by creating a DISA Instruction and publishing Dateline DISA articles to help disseminate this information across the agency.

Within DCIM, each data center owner will identify a point of contact that will be responsible for ensuring the information in DCIM is valid and accurate on a semi-annual basis. The DISA CIO will continue to execute data center validation reports and monitor compliance status via annual spot checks of all its facilities...

DISA plans to complete these process revisions no later than Q4 FY16.

The Action Officer for the process of validating data center information is

Acronyms and Abbreviations

ADCCP Army Data Center Consolidation Plan

AFB Air Force Base

CDC Core Data Center

CIO Chief Information Officer

DCIM Data Center Inventory Management

DDCIO Deputy Chief Information Officer

DISA Defense Information Systems Agency

DON Department of the Navy

FDCCI Federal Data Center Consolidation Initiative

GAO Government Accountability Office

IPN Installation Processing Node

IT Information Technology

OMB Office of Management and Budget

SPPN Special Purpose Processing Node

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