U.S. International Trade Commission

Audit of ITCNet's Hardware Management

OIG-AR-20-07

December 6, 2019

Office of Inspector General

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Commissioners

David S. Johanson, Chairman
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UNITED STATES INTERNATIONAL TRADE COMMISSION

OFFICE OF INSPECTOR GENERAL

WASHINGTON, DC 20436

December 6, 2019 IG-RR-036

Chairman Johanson:

This memorandum transmits the final report for the Audit of ITCNet's Hardware Management, OIG-AR-20-07. In finalizing this report, we analyzed management's comments to our draft report and have included those comments in their entirety as Appendix A.

The objective of the audit was to determine whether the Commission had effectively used its hardware inventory to manage its network. The audit determined that the Commission had not effectively used its hardware inventory to manage its network.

This report contains two recommendations to improve managing hardware on ITCNet. In the next 30 days, please provide me with your management decisions describing the specific actions that you will take to implement each recommendation.

Thank you for the courtesies extended to my staff during this audit.

Philip M. Heneghan
Inspector General

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Results of Audit

The objective of this audit was to answer the question:

- Does the Commission effectively use its hardware inventory to manage its network?

No, the Commission does not effectively use its hardware inventory to manage its network.

Hardware are the physical components, such as servers, laptops, desktops, printers, and network devices that make up ITCNet. The Chief Information Officer maintains its hardware inventory within a computer system database. This database is the authoritative list for devices that are authorized to be on ITCNet, and it is integrated with a Network Access Control tool, which can prevent unauthorized hardware from connecting to ITCNet.

Effectively managing hardware on the network is a core foundational security control. This requires the Commission to be able to:

1. Maintain an authorized list of approved hardware.
2. Manage hardware on the system through regular scanning and patching; and
3. Identify unmanaged and unauthorized hardware

We obtained the list of approved hardware devices authorized to run on ITCNet from the Office of the Chief Information Officer. We then compared that list to the hardware devices that were running on ITCNet. We identified 292 devices connected to ITCNET that were not on the approved hardware list.

Because the Commission was unaware of these devices, they did not know if they had been included in the routine scanning and patching process of network devices.

We found that the Commission could not effectively use its hardware inventory to manage the network because the inventory was not up to date.

Problem Area

Problem Area:

Authorized Hardware List Was Not Up to Date

In order to effectively manage hardware devices on a network, an organization must know what is on its network. This is accomplished by maintaining a current inventory of authorized hardware and performing continuous monitoring to identify and detect unauthorized devices on the network.

The Commission uses a network access control monitoring tool to manage hardware on the network. The tool performs continuous scanning of the Commission's network to identify new devices, restrict unauthorized devices, and block high-risk devices. The tool is also used to capture network information related to approved hardware devices that is populated in the Commission's authoritative source for its hardware inventory.

When a device is approved to run on ITCNet, the Office of the Chief Information Officer will connect it to the network. The network access control monitoring tool should detect the device, capture the associated network data, and send an automated alert that a new device has been discovered. The OCIO staff would then review the alert and authorize the device within the network access control monitoring tool. The device and associated network information is electronically transmitted to the hardware inventory database.

During this audit we found that the network monitoring control tool had not worked for six months. As a result, the Commission did not have the ability to identify, capture, or transmit the information for authorized devices to the hardware inventory database.

We also performed tests to determine if the Commission could identify and block attempts to install unauthorized hardware on ITCNet. Because the network monitoring control tool was not working, we successfully attached a non-authorized device to ITCNet, that was not detected or blocked.

Our analysis of hardware connected to ITCNet identified 292 devices that were not on the approved hardware inventory list. It is unknown whether these devices were authorized to be connected to the network. Unauthorized and unmanaged devices are entry points for access to the network that could negatively impact the operability and security of ITCNet.

Recommendation 1: Develop a process to ensure the authoritative hardware database is kept up to date.

Recommendation 2: Develop a backup process for detecting and preventing unauthorized devices on ITCNet.

Management Comments and Our Analysis

On December 2, 2019, Chairman David S. Johanson provided management comments on the draft report. He agreed with the findings in the audit and that the Commission should develop a process to ensure that the authoritative database is up to date and develop a process for detecting and preventing unauthorized devices on ITCNet. He also stated that the Commission will make management decisions to address the recommendations in the report.

Objective, Scope and Methodology

Objective:

Does the Commission effectively use its hardware inventory to manage its network?

Scope:

This audit assessed all hardware that is connected to ITCNet in the July 2019 and August 2019 timeframe.

Methodology:

- Collected and analyzed the Chief Information Officer data.
- Interviewed staff to gain an understanding of the hardware inventory environment and security practices.
- Assessed the hardware inventory from the Chief Information Officer.
- Determined if the Chief Information Officer is effectively managing its Windows hardware on the network.

GAGAS Statement: We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS) during the period of June 2019 through December 2019. 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.

Appendix A: Management Comments

UNITED STATES INTERNATIONAL TRADE COMMISSION

WASHINGTON, DC 20436

CO83-RR-015

December 2, 2019

MEMORANDUM

TO: Philip M. Heneghan, Inspector General

FROM: David S. Johanson, Chairman DSJ 2 Dec. 2019

SUBJECT: Response to Draft Report – Audit of ITCNet's Hardware Management

Thank you for the opportunity to review and provide comments to the draft report -- Audit of ITCNet's Hardware Management.

We agree with your findings in this audit that the Commission should develop a process to ensure the authoritative database is up to date and develop a process for detecting and preventing unauthorized devices on ITCNet. The Commission will develop management decisions to address the two recommendations in the report.

"Thacher's Calculating Instrument" developed by Edwin Thacher in the late 1870s. It is a cylindrical, rotating slide rule able to quickly perform complex mathematical calculations involving roots and powers quickly. The instrument was used by architects, engineers, and actuaries as a measuring device.

To Promote and Preserve the Efficiency, Effectiveness, and Integrity of the U.S. International Trade Commission

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