



March 11, 2020

To: Finance and Administration Committee

From: Darrell E. Johnson, Chief Executive Officer
Janet Sutter, Executive Director
Internal Audit Department

Subject: Performance Audit of the Orange County Transportation Authority's Patch Management Program

Overview

On behalf of the Internal Audit Department, the firm BCA Watson Rice, LLP, has completed an audit of the Orange County Transportation Authority's Patch Management Program. The audit found that the Patch Management Program for the Windows operating environment complies with industry standards and best practices; however, the program should be expanded to address areas outside the Windows environment. The auditors identified five areas of improvement to further enhance the program.

Recommendation

Direct staff to implement five recommendations provided in the performance audit of the Orange County Transportation Authority's Patch Management Program.

Background

The Orange County Transportation Authority (OCTA) Information Systems (IS) Department is responsible for the effective and secure delivery of computing solutions to all business units. This includes the execution of OCTA's Patch Management Program (PMP). The National Institute of Standards and Technology (NIST) defines patch management as "...the process for identifying, acquiring, installing, and verifying patches for products and systems." Patches aim to correct security and functionality problems in firmware and software applications.

The purpose of the audit was to assess and test the adequacy of OCTA's PMP and to make detailed recommendations for improvement based on industry standards, best practices, economy, and efficiency. The audit included testing of OCTA's compliance with its patch management policies and procedures and best practices, including NIST 800-53, Revision 4 Security Standards and NIST 800-40, Revision 3, titled "Guide to Enterprise Patch Management Technologies".

Discussion

OCTA's IS Department has developed a PMP, supported by a written policy, that focuses on the Windows operating environment. Management's strategy was to focus first on the highest risk area, the Windows environment, and then expand the program to address other risk areas. The auditors offered one recommendation to expand the PMP to address all other operating systems hardware, software, and peripherals, and to incorporate all devices into the PMP. The auditors also offered four recommendations to further enhance the PMP by formalizing plans to address patch vulnerabilities, removing obsolete operating systems and software from the network, restricting users from installing unauthorized software, and developing test scripts to ensure system functionality after implementation of a patch. Management agreed with the recommendations and indicated that progress has been made, and efforts will continue, to implement these improvements.

Summary

An audit of OCTA's PMP has been completed by the firm of BCA Watson Rice, LLP. The detailed audit scope and results are included in the audit report at Attachment A.

Attachment

- A. Orange County Transportation Authority, Performance Audit of OCTA's Patch Management Program, February 18, 2020

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