Firewall Management

Audit Report # 23-104
June 8, 2023

The University of Texas at El Paso

Office of Auditing and Consulting

"Committed to Service, Independence and Quality"

The University of Texas at El Paso
Office of Auditing and Consulting Services

500 West University Ave.
El Paso, Texas 79968
915-747-5191
WWW.UTEP.EDU

June 8, 2023

Dr. Heather Wilson
President, The University of Texas at El Paso
Administration Building, Suite 500
El Paso, Texas 79968

Dear Dr. Wilson:

The Office of Auditing and Consulting Services has completed a limited-scope audit of *Firewall Management*. During the audit, we identified opportunities for improvement and offered the corresponding recommendations in a separate management letter. We intend the recommendations will assist the department in strengthening controls and help ensure that the University's mission, goals, and objectives are achieved.

We appreciate the cooperation and assistance provided by Infrastructure Operations and Information Security Office staff during our audit.

Sincerely,

Lori Wertz
Chief Audit Executive

EXECUTIVE SUMMARY

The Office of Auditing and Consulting Services has completed a limited scope audit of Firewall Management to determine adherence to State and University security controls and standards. Due to the confidential nature of the audit, we issued a separate management letter which details specific findings and recommendations. These confidential results are exempt from the Texas Public Information Act under Texas Government Code §552.139.

Background

Infrastructure Operations implemented next-generation firewalls in Fiscal Year 2022, a first line of defense in network security, as part of its multi-layered cybersecurity approach to protect its network from internal/external threats. The National Security Agency (NSA) released a "Network Infrastructure Security Guide" (June 2022) which captures leading practices in response to network threats. It recommends implementing multiple layers of defense at the network's perimeter to monitor and restrict inbound and outbound traffic, including the installation of next-generation firewalls throughout the network.

The audit was conducted by the Institute of Internal *Auditors' International Standards for the Professional Practice of Internal Auditing and Generally Accepted Government Auditing Standards.*

Audit Objectives and Scope

The objective of this audit is to evaluate the management of firewall systems to ensure related rules, configurations, and monitoring elements are in place to protect the University from cybersecurity threats. The scope of the audit is limited to network firewalls for the test period from September 1, 2021, to April 7, 2023.

Strengths

The University's firewall infrastructure is comprised of next-generation firewalls, which have technology to address advanced security threats. These firewalls are maintained by qualified staff from Infrastructure Operations who have a firm understanding of their roles and responsibilities.

Summary of Audit Results

Firewall Management – Audit Area	Number of Findings
A. Firewall Management	2
B. Firewall Safeguards	3

Conclusion

Based on the audit procedures performed, we conclude that Infrastructure Operations can strengthen existing security controls by implementing the recommendations included in the memo.

We wish to thank management and staff at Infrastructure Operations and the Information Security Office for their assistance and cooperation throughout the audit.

Report Distribution:

University of Texas System (UT System):

System Audit Office

External:

Governor's Office of Budget, Planning and Policy

Legislative Budget Board

Internal Audit Coordinator, State Auditor's Office

Auditors Assigned to the Audit:

Narahay Buendia, Senior Auditor II

Luis Carrera, IT Audit Manager