

Audit Report

University System of Maryland Office

May 2015



OFFICE OF LEGISLATIVE AUDITS
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

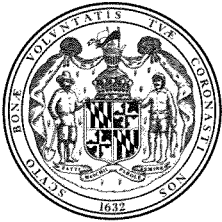
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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF LEGISLATIVE AUDITS
MARYLAND GENERAL ASSEMBLY

Karl S. Aro
Executive Director

May 6, 2015

Thomas J. Barnickel III, CPA
Legislative Auditor

Senator Guy J. Guzzone, Co-Chair, Joint Audit Committee
Delegate Craig J. Zucker, Co-Chair, Joint Audit Committee
Members of Joint Audit Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a fiscal compliance audit of the University System of Maryland Office for the period beginning March 31, 2011 and ending June 30, 2014. The Office develops system-wide policies and procedures; monitors academic, financial, and administrative performance; provides system-wide financing through the issuance of bonds; and provides management information for planning and decision-making to the 12 institutions and 2 regional higher education centers of the University System of Maryland. The Office operates a local area network in support of its operations and also serves as the host institution for the Maryland Research and Education Network operating unit.

Our audit disclosed security weaknesses over the Office's network. For example, controls were not sufficient to protect the Office's network from malware. Additionally, certain firewalls did not provide the necessary level of security over the network. We also noted that the Office did not ensure compliance with certain Board of Regents reporting requirements intended to help monitor affiliated foundations.

The Office's response to this audit is included as an appendix to this report. We wish to acknowledge the cooperation extended to us during the course of this audit by the Office.

Respectfully submitted,

Thomas J. Barnickel III, CPA
Legislative Auditor

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Background Information

Agency Responsibilities

The University System of Maryland Office develops system-wide policies and procedures; monitors academic, financial, and administrative performance; provides system-wide financing through the issuance of bonds; and provides management information for planning and decision-making to the 12 institutions and 2 regional higher education centers of the University System of Maryland. The Office oversees the development and management of the University System of Maryland's two regional higher education centers: the Universities at Shady Grove and the University System of Maryland at Hagerstown. The Office also serves as the staff to the Board of Regents.

The Office operates a local area network in support of its operations. In addition, the Office is the host institution for the Maryland Research and Education Network (MDREN) Operating Unit, which maintains and operates the MDREN. MDREN is a telecommunications network with connections to University System of Maryland (USM) institutions and other Maryland public and private colleges, universities, and community colleges. MDREN provides Internet access, connections for research activity, access to USM institutions' online library systems, and connectivity for distance learning.

According to the State's records, the Office's expenditures totaled approximately \$30.5 million during fiscal year 2014.

Audit of the System's Financial Statement

An independent accounting firm is engaged by the Office for the purpose of expressing an opinion on the System's financial statements each year. In the related audit reports for the fiscal years ended June 30, 2011, 2012, 2013, and 2014, the firm stated that the financial statements presented fairly, in all material respects, the financial position of the System, and the respective changes in financial position and cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States.

Status of Findings From Preceding Audit Report

Our audit included a review to determine the status of the seven findings contained in our preceding audit report dated January 17, 2012. We determined that the Office satisfactorily addressed these findings.

Findings and Recommendations

Information Systems Security and Control

Finding 1

Network workstations and servers were not sufficiently protected against malware.

Analysis

The University System of Maryland Office's network workstations and servers were not sufficiently protected against malware.

- The Office did not have an enterprise-wide management tool to administer and manage the anti-malware software on its 237 workstations and 49 servers. Furthermore, the Office did not manually monitor its workstations and servers to ensure that the anti-malware software was installed and functioning properly and that this software and related anti-malware signatures were kept up to date on all workstations and servers. According to the Office's records, 43 servers did not have any anti-malware software installed. In addition, the anti-malware software installed on all eight workstations tested was at least one year out of date.
- According to the Office's records, 48 employees were improperly assigned administrator rights on their workstations. Administrator rights are the highest permission level that can be granted to users and allow users to install software and change configuration settings. As a result, if these workstations were infected with malware, the malware would run with administrator rights and expose these workstations to a greater risk of compromise than if the workstations' user accounts operated with only user rights. In addition, as a result of the administrator rights assigned, these users had the ability to disable the malware protection software on their workstations.
- Computers tested had not been updated with the latest releases for software products that are known to have significant security-related vulnerabilities, such as malware. Although the vendors for these software products frequently provide software patches to address these vulnerabilities, the Office had not updated its workstations for these patches.

The *USM IT Security Standards* states that agencies, at a minimum, must protect against malicious code by implementing protections that, to the extent possible, include a capability for automatic updates.

Recommendation 1

We recommend that the Office

- a. use an enterprise-wide management tool to ensure that anti-malware software is installed on the Office’s workstations and servers;**
- b. regularly confirm that all workstations and servers are configured with anti-malware software that is operating properly, up to date and has current anti-malware signatures, document these efforts and retain this documentation for future reference;**
- c. ensure that administrator rights on workstations are restricted to network administrators; and**
- d. promptly install all critical security-related software updates.**

Finding 2

The Office’s network was not adequately secured from untrusted traffic.

Analysis

The Office’s network was not adequately secured from untrusted traffic. Specifically, we noted that two critical firewalls allowed untrusted traffic from various sources to numerous devices on the internal network and to a trusted neutral network zone containing critical servers. For example, untrusted guest wireless users had unnecessary network-level access to numerous servers over various ports. In addition, we noted 10 outdated firewall rules that were no longer needed.

Recommendation 2

We recommend that the Office improve its network security by updating the aforementioned firewalls’ rules to implement a “least privilege” security strategy to better protect critical network devices, including those devices and servers in the neutral network zone.

Affiliated Foundations

Finding 3

The Office did not ensure compliance with certain reporting requirements intended to help monitor affiliated foundations.

Analysis

The Office did not ensure compliance with certain reporting requirements intended to help the Office monitor affiliated foundations as detailed in the Board of Regents’ *Policy on Affiliated Foundations*.

- The Office's procedures to ensure affiliated foundations submitted all required reports were not effective, as our audit disclosed that it did not obtain certain required reports from affiliated foundations for fiscal years 2012 and 2013. (At the time of our audit, the fiscal year 2014 reports were not yet required.) Furthermore, the reports that were received were not submitted to the General Assembly's Legislative Reference Office, as required. The aforementioned *Policy* requires that System-wide foundations submit reports of financial activity and other critical information to the University System of Maryland (USM) Chancellor within 120 days after the end of each fiscal year. For institution-specific foundations, the *Policy* requires the reports to be submitted to the president of the applicable institution. The *Policy* also requires the Office to submit these reports to the Legislative Reference Office within 180 days of USM's fiscal year end.

Our review of nine affiliated foundations disclosed that the Office did not obtain 30 of the 90 reports required (10 for each foundation) for fiscal year 2012 and did not obtain 35 of the 90 reports required for 2013. Some of the required reports that were not submitted include financial audit reports, audited reports of the transfer of funds to USM, reports of USM employees who received compensation from the foundation, and reports of the foundation's major activities. While the Office advised us that, according to the applicable foundations, some of the reports that were not submitted were not applicable to those foundations, there was no documentation that the Office had verified the foundations' assertions.

- The Office advised that foundation reports received were reviewed to identify any matters reflecting potential violations of Board policies; however, the review was not formalized nor was it documented. These reviews are important given a finding reported upon in our recent audit report of University of Maryland Eastern Shore (UMES). Specifically, in our November 7, 2014 audit report, we noted several questionable foundation activities. For example, as more fully explained in the aforementioned audit report, UMES provided grant funding to a foundation without obtaining documentation from the foundation to account for the use of the grant funds to ensure they were spent for purposes consistent with the intent of the grant agreements. Furthermore, a UMES management employee, who also served as the foundation's executive director, was involved in business activities with the foundation that were not disclosed to UMES and that raised questions regarding a potential conflict of interest. The audit report also noted that UMES had not obtained certain of the aforementioned required reports from its affiliated foundation for fiscal years 2011, 2012, and 2013. Our aforementioned test confirmed that the foundation had also not submitted

these reports to the Office for the years tested. Had those reports been obtained and adequately reviewed, the Office may have become aware of and may have taken action to address the questionable activities included in the audit report.

- The Office had not issued an annual report to the General Assembly's Joint Audit Committee regarding the operations of the affiliated foundations for fiscal years 2012 and 2013. The *Policy* requires the report to be issued within 180 days after the end of the fiscal year.

The USM Board of Regents may recognize as an affiliated foundation an organization that is created and operated in support of the interests of USM or a constituent institution and has the following purposes: facilitating fund-raising programs; managing and investing private gifts or property; and/or promoting, sponsoring, and implementing educational, scientific, research, charitable, or cultural activities for the benefit of the System. According to the Office's records, there were 20 affiliated foundations in fiscal year 2014.

Recommendation 3

We recommend that the Office

- a. obtain all required reports from affiliated foundations, including those from fiscal years 2012 and 2013, and verify and document any reports that are not submitted because the reports are not applicable to the foundation;**
- b. submit foundation reports to the Legislative Reference Office within 180 days of USM's fiscal year end;**
- c. formalize and document its review of the foundation reports and any related follow-up action, and**
- d. annually issue the required report of the operations of affiliated foundations to the General Assembly's Joint Audit Committee.**

Audit Scope, Objectives, and Methodology

We have conducted a fiscal compliance audit of the University System of Maryland Office for the period beginning March 31, 2011 and ending June 30, 2014. The audit was conducted 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.

As prescribed by the State Government Article, Section 2-1221 of the Annotated Code of Maryland, the objectives of this audit were to examine the Office's financial transactions, records, and internal control, and to evaluate its compliance with applicable State laws, rules, and regulations.

In planning and conducting our audit, we focused on the major financial-related areas of operations based on assessments of significance and risk. The areas addressed by the audit included cash receipts, payroll, corporate purchasing cards, endowment funds, revenue bonds, and information technology systems. We also determined the status of the findings contained in our preceding audit report.

To accomplish our audit objectives, our audit procedures included inquiries of appropriate personnel, inspections of documents and records, observations of the Office's operations, and tests of transactions. We also performed various data extracts of pertinent information from the State's Financial Management Information System (such as revenue and expenditure data) and the State's Central Payroll Bureau (payroll data), as well as from the contractor administering the State's Corporate Purchasing Card Program (credit card activity). The extracts are performed as part of ongoing internal processes established by the Office of Legislative Audits and were subject to various tests to determine data reliability. We determined that the data extracted from these various sources were sufficiently reliable for the purposes the data were used during this audit. Finally, we performed other auditing procedures that we considered necessary to achieve our audit objectives. The reliability of data used in this report for background or informational purposes was not assessed.

Our audit included support services (that is, endowment accounting and bond financing) provided by the Office on a centralized basis for other units of the University System of Maryland. Our audit did not include certain support services provided to the Office by the University of Maryland, College Park. These support services (such as purchasing and processing vendor payments) are

included within the scope of our audits of the University of Maryland, College Park. In addition, our audit did not include an evaluation of internal controls over compliance with federal laws and regulations for federal financial assistance programs and an assessment of the Office's compliance with those federal laws and regulations because the State of Maryland engages an independent accounting firm to annually audit such programs administered by State agencies, including the Office.

The Office's management is responsible for establishing and maintaining effective internal control. Internal control is a process designed to provide reasonable assurance that objectives pertaining to the reliability of financial records, effectiveness and efficiency of operations including safeguarding of assets, and compliance with applicable laws, rules, and regulations are achieved.

Because of inherent limitations in internal control, errors or fraud may nevertheless occur and not be detected. Also, projections of any evaluation of internal control to future periods are subject to the risk that conditions may change or compliance with policies and procedures may deteriorate.

Our reports are designed to assist the Maryland General Assembly in exercising its legislative oversight function and to provide constructive recommendations for improving State operations. As a result, our reports generally do not address activities we reviewed that are functioning properly.

This report includes findings related to conditions that we consider to be significant deficiencies in the design or operation of internal control that could adversely affect the Office's ability to maintain reliable financial records, operate effectively and efficiently, and/or comply with applicable laws, rules, and regulations. Our report also includes findings regarding significant instances of noncompliance with applicable laws, rules, or regulations. Other less significant findings were communicated to the Office that did not warrant inclusion in this report.

The Office's response to our findings and recommendations is included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise the Office regarding the results of our review of its response.

APPENDIX



OFFICE OF THE CHANCELLOR

April 29, 2015

Mr. Thomas J. Barnickel III, CPA
Legislative Auditor
Office of Legislative Audits
State Office Building, Room 1202
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1807
University of Maryland,
Baltimore

1856
University of Maryland,
College Park

1865
Bowie State University

1866
Towson University

1886
University of Maryland
Eastern Shore

1898
Frostburg State University

1900
Coppin State University

1925
Salisbury University

1925
University of Baltimore

1925
University of Maryland
Center for Environmental
Science

1947
University of Maryland
University College

1966
University of Maryland,
Baltimore County

Re: University System of Maryland Office
Period of Audit: March 31, 2011 through June 30, 2014

Dear Mr. Barnickel:

I have enclosed the University System of Maryland Office's responses to your draft report covering the examination of the accounts and records of the University System of Maryland Office. Our comments refer to the individual items in the report.

Sincerely yours,

William E. Kirwan
Chancellor

Enclosures

cc: Mr. Robert L. Page, Associate Vice Chancellor for Financial Affairs, USM Office
Mr. James L. Shea, Esq., Chair, University System of Maryland Board of Regents
Mr. Anwer Hasan, Chairman, MHEC
Ms. Jennie C. Hunter-Cevera, Ph.D., Acting Secretary of Higher Education, MHEC
Mr. Joseph F. Vivona, Vice Chancellor for Admin and Finance & COO, USM Office
Mr. David Mosca, Director of Internal Audit, USM Office

**RESPONSE TO LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND OFFICE
MARCH 31, 2011 TO JUNE 30, 2014**

Information Systems Security and Control

Finding 1

Network workstations and servers were not sufficiently protected against malware.

Recommendation 1

We recommend that the Office

- a. use an enterprise-wide management tool to ensure that anti-malware software is installed on the Office’s workstations and servers;**
- b. regularly confirm that all workstations and servers are configured with anti-malware software that is operating properly, up to date and has current anti-malware signatures, document these efforts and retain this documentation for future reference;**
- c. ensure that administrator rights on workstations are restricted to network administrators; and**
- a. promptly install all critical security-related software updates.**

University response

The University System Office agrees with this recommendation.

We are in the process of implementing centralized management for Anti-Virus and Anti-Malware updates, have begun removing administrative rights for those users who had them, and are expanding the automatic push of operating system patches to include other software which requires frequent updates.

Finding 2

The Office’s network was not adequately secured from untrusted traffic.

Recommendation 2

We recommend that the Office improve its network security by updating the aforementioned firewalls’ rules to implement a “least privilege” security strategy to better protect critical network devices, including those devices and servers in the neutral network zone.

University response

The University System Office agrees with this recommendation.

The Firewall rules referenced in the finding were adjusted or removed by December 2014, and the level of access which the neutral network zone grants to

**RESPONSE TO LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND OFFICE
MARCH 31, 2011 TO JUNE 30, 2014**

the untrusted guest wireless network was reduced to the same level of access as the public Internet in January 2015.

Affiliated Foundations

Finding 3

The Office did not ensure compliance with certain reporting requirements intended to help monitor affiliated foundations.

Recommendation 3

We recommend that the Office

- a. obtain all required reports from affiliated foundations, including those from fiscal years 2012 and 2013, and verify and document any reports that are not submitted because the reports are not applicable to the foundation;**
- b. submit foundation reports to the Legislative Reference Office within 180 days of USM's fiscal year end;**
- c. formalize and document its review of the foundation reports and any related follow-up action, and**
- d. annually issue the required report of the operations of affiliated foundations to the General Assembly's Joint Audit Committee.**

University response

The University System Office agrees with the finding, though in review of materials submitted by the UMES affiliated foundation there was no indication of the matters raised by the Legislative Auditor with respect to the interactions, transactions, and lack of controls noted in any of the materials received prior to October 2014, when the financial statements first included a note on 'related party transactions'. In that context, acknowledging the severity of the issues and concerns associated with that affiliated foundation, the System Office is reviewing the Board of Regents Policy on Affiliated Foundations to determine whether or not any gaps in oversight exist that do not compromise the necessary independence of these separate, but critical, separate entities that support the mission and objectives of System institutions.

- a. The System Office has conducted a second, comprehensive review of documents received for fiscal years 2012 through 2014, and is seeking any missing reports the foundations do not indicate are 'not applicable'.

**RESPONSE TO LEGISLATIVE AUDIT REPORT
UNIVERSITY SYSTEM OF MARYLAND OFFICE
MARCH 31, 2011 TO JUNE 30, 2014**

- b. Once all appropriate materials have been collected, the System Office will submit the foundation reports to the Legislative Reference Office. The System Office will routinely submit the materials as policy requires in the future.
- c. The Office of Administration and Finance will review the documents, itemize any concerns that might arise from a review of the materials in the context of compliance with System and state policies and requirements, and in collaboration with the Office of Advancement, agree upon and pursue whatever appropriate follow-up is required.
- d. The Office of Advancement will annually issue the required report of the operations of affiliated foundations to the General Assembly's Joint Audit Committee.

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