

# STATE OF NEVADA

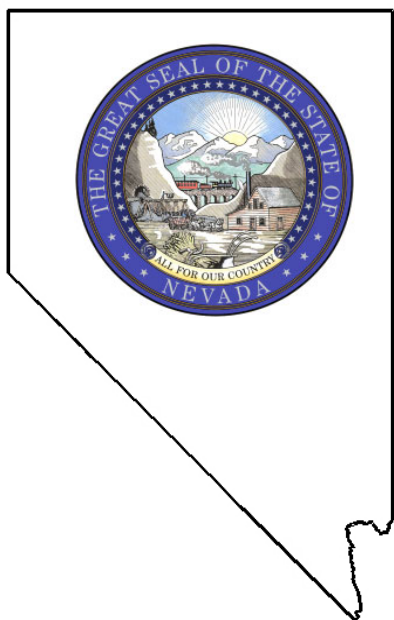
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## Performance Audit – Addendum

Department of Taxation

Information Security – Servers  
LA18-23A

Operating System and Database Application Software



Legislative Auditor  
Carson City, Nevada

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This report addendum LA18-23A contains supplemental findings, conclusions, and recommendations from our performance audit of the Department of Taxation, Information Security (LA18-23). We issued that report on October 29, 2018. The audit was conducted pursuant to the ongoing program of the Legislative Auditor as authorized by the Legislative Commission, and was made pursuant to provisions of NRS 218G.010 and 218G.350.

An addendum to report LA18-23 was necessary because security vulnerabilities existed in certain information systems within the Department of Taxation (Department). Providing details regarding those vulnerabilities, at the time we made the original report public, would have unnecessarily exposed those information security weaknesses. Since the Department has performed sufficient corrective actions to mitigate the security vulnerabilities, we are issuing this addendum as a supplement to our original report. Readers are encouraged to refer to report LA18-23 and this report addendum to gain a complete and comprehensive understanding of the audit's scope and objective, findings, recommendations, and methodology.

This addendum includes one additional recommendation to improve the security of the Department's servers. We are available to discuss this recommendation or any other items in the report with any legislative committees, individual legislators, or other state officials.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Daniel Crossman".

Daniel L. Crossman, CPA  
Legislative Auditor

April 26, 2023  
Carson City, Nevada

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# Addendum to Audit Report LA18-23

## **Server Software Lacked Critical Security Updates**

Twenty-two of the Department of Taxation's (Department) 114 servers had critical security vulnerabilities due to outdated and unsupported operating system and application software. As software becomes outdated, the Department can no longer rely on security updates or software provider technical support to help the Department address issues as they arise. Knowing key dates in an application's lifecycle helps an organization make informed decisions about when to upgrade or make other changes to its software. Without adequate software upgrade planning, the Department compromises security, performance, and overall efficiency.

As of October 29, 2018, 8 of the Department's 114 servers were running outdated Windows operating system software with critical security vulnerabilities due to missing updates. In addition, 14 of the Department's 114 servers were running outdated Oracle database software. There were no current security updates available to fix identified vulnerabilities, as the vendors no longer supported the version of software installed. State security standards require application software be maintained with current updates. State security standards also require operating systems to be upgraded that reach their end-of-life and are not supported by the vendor with security updates.

Department staff were aware of the outdated software and had already formed a multiphase project plan to upgrade the software; however, the project completion date was inadequate and anticipated later than the release of the original audit (LA18-23). Over the last 4 years, the Department has continued to work on their project plans to move to supported versions of software.

The information the Department maintains on its systems includes Federal Tax Information (FTI). Therefore, keeping software current is vital to mitigate software vulnerabilities and ensure access to FTI is permitted only to individuals who are allowed access. Software updates serve other purposes than mitigating software flaws, they can also add new features to software, including security capabilities.

The Department did have a process for identifying needed software updates and upgrades; however, the Department acknowledged legislatively mandated projects had taken priority over the upgrade of the legacy systems. Even though the Department had planned to upgrade its system, the plan did not timely address known vulnerabilities of systems housing sensitive data. Identifying and addressing these issues timely is important to ensure data and systems are not unnecessarily compromised.

### **Recommendation**

1. Prioritize operating system and database software upgrades to ensure upgrades to current supported versions are completed timely.

**Actions Taken by the Agency to Resolve the Vulnerable Software**

The Department had established a multiphase project plan with anticipated full implementation later than the release of the original audit (LA18-23). We conducted regular meetings with the Department's Information Security Officer and related server and database unit representatives to discuss the upgrade status and monitor the Department's progress. The Department successfully completed upgrading all 22 servers' software to current, vendor-supported versions by February 2023.

**Methodology**

To assess whether the Department had established controls to ensure adequate inventory and control of software assets for its servers, we reviewed all servers for software versions in use, hardware and software asset inventory lists, and observed patch management tools and vulnerability scan results. We also discussed issues noted with information technology staff and managers. Finally, we reviewed server records to verify that appropriate corrective actions were taken to upgrade operating systems and database application software to supported versions.

Our audit work was conducted from November 2017 to February 2023. We conducted this performance audit 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 objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

**Statutorily Required Corrective Action and Follow-Up**

The recommendation on page 2 is in addition to the 17 recommendations issued in the original report (LA18-23) and is subject to the corrective action and follow-up requirements outlined in NRS 218G.250 and 218G.270. The Department's 60-day plan for corrective action on the one recommendation in this addendum is due on August 1, 2023 and the 6-month report on the status of the audit recommendation is due on February 1, 2024.

In accordance with NRS 218G.230, we furnished a copy of our preliminary report addendum to Department of Taxation. On April 19, 2023, we met with agency officials to discuss the results of the audit and requested a written response to the preliminary report addendum. That response is included on page 5.

Contributors to this report included:

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# Response From the Department of Taxation



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April 25, 2023

Daniel L. Crossman, CPA  
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Legislative Council Bureau  
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Dear Mr. Crossman,

We appreciate LCB Audit's assistance and support as our IT division has worked diligently to address issues raised in the 2018 Information Security audit. Please see our response below to the recommendation in "Addendum to Audit Report LA-18-23". We have also attached the "Department of Taxation's Response to the Audit Recommendation" indicating our acceptance of the recommendation.

**Recommendation:** Prioritize operating system and database software upgrades to ensure upgrades to current supported versions are completed timely.

**Response:** We accept this recommendation

The Department has been aware of outdated software and has worked on project plans over the last 4 years to move to supported versions of software. However, legislatively mandated projects and resource limitations have at times impeded that process. The Department understands the importance of addressing this critical issue, and is striving to ensure system upgrades are completed timely going forward.

Thank you for presenting this important recommendation to improve the Department of Taxation's IT systems security.

Sincerely,

Shellie Hughes, Executive Director  
Nevada Department of Taxation

## Department of Taxation's Response to the Audit Addendum Recommendation

<u>Recommendation</u>	<u>Accepted</u>	<u>Rejected</u>
1. Prioritize operating system and database software upgrades to ensure upgrades to current supported versions are completed timely. ....	<u>    X    </u>	<u>          </u>
TOTAL	<u>    1    </u>	<u>          </u>