



STATE OF MICHIGAN

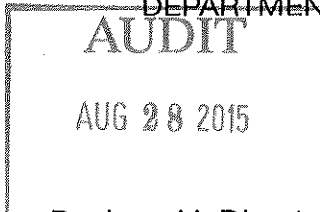
DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET

LANSING

August 14, 2015

RICK SNYDER
GOVERNOR

DAVID B. BEHEN
DIRECTOR



Jeffery Bankowski, Director
Office of Internal Audit Services
State Budget Office
George W. Romney Building
111 South Capitol, 6th Floor
Lansing, Michigan 48913

Dear Mr. Bankowski:

In accordance with the State of Michigan, Financial Management Guide, Part VII, attached is a summary table identifying our responses and corrective action plans to address recommendations contained within the Office of the Auditor General's performance audit report of Statewide Oracle Database Controls, Department of Technology, Management and Budget.

Questions regarding the summary table or corrective action plans should be directed to me.

Sincerely,

Signature Redacted

Michael Gilliland, Director
DTMB Financial Services

c:

Representative Al Pscholka, Chair, House Appropriations
Senator Dave Hildenbrand, Chair, Senate Appropriations
Mark Freeman, Office of the Auditor General
Dennis Muchmore, Executive Office
Dick Posthumus, Executive Office
House Fiscal Agency
Senate Fiscal Agency
Brom Stibitz, DTMB
Christian Kopacsi, DTMB
James McFarlane, DTMB
Rodney Davenport, DTMB
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Phillip Jeffery, DTMB
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John Juarez, DTMB
Matt Sweeney, DTMB

Performance audit of Statewide Oracle Database Controls Audit,
Department of Technology, Management and Budget
Audit Period: October 1, 2012 through September 30, 2014

Summary of Agency Responses to Recommendations

1. Audit recommendations DTMB agrees with and will comply: # 1, 2, 3, 4, and 5
2. Audit recommendations DTMB fully complied with: None
3. Audit recommendations DTMB disagrees with: None

Agency Responses to Recommendations

1. More compressive security configurations are vital to protecting vulnerable Oracle databases.

DTMB agrees with the recommendation and will implement more comprehensive security configurations to protect databases.

Realizing the importance of comprehensive Oracle database security standards, DTMB established cross-agency Database Security Standards Committee (DSSC) in June 2013. The Committee developed and published its first set of database security standards (1340.00.15) and Oracle database security procedures (1340.00.15) for the State of Michigan databases in June 2014. The Committee will continue its work towards incorporating best practices around Oracle database security in the revised standards and better communicate and enforce the standards across the Enterprise. Updated Oracle Database Security Standards will be published by September 30, 2015. DTMB will continue its progress with implementing various security measures and assisting with enforcement of more comprehensive security configurations across all State Oracle databases. To better address appropriate methods for data protection and security based on the data classification and sensitivity, DTMB (Michigan Cyber Security) in collaboration with State agency security officers created and published new Data Classification Standard (1340.00.14) in June 2014. The new Data Classification framework will assist DTMB Database Administrators in better determining appropriate security configurations for maintained and supported databases across the Enterprise. As part of comprehensive Enterprise database security initiative, DTMB also established a new Database Security Program in June 2013 for assessing and implementing various Oracle database software technologies for database encryption, data masking, audit, firewalls, and access controls. As its first priority, the Program successfully implemented full database encryption (including Oracle encryption) at rest and in transit, by June 2014, across the Enterprise. The program will leverage Oracle security software and tools purchased by DTMB to improve database security configuration and processes on the Enterprise level. Installation of all Oracle database security program software is planned by October 1, 2015. Following the installation of the Oracle database security program software, a second phase of the program will configure and tailored deployment of each Oracle database security product to maximize the security protection of SOM agencies. For the second phase of the program, the required security business requirements analysis, and required implementation process and procedures are planned for completion by May 1, 2016. Each agency will be responsible for the configuration and deployment implementation,

and any agency that has not completed implementation by the planned completion date, will require an approved exception request to extend their completion date.

2. Improvements are needed to database user access controls.

DTMB agrees with the recommendation and will implement needed improvements to database user access controls. DTMB will enforce the existing Database Security Standard 1340.00.15 in all agency databases. In addition, the Database Security Program Office will maintain records of controls being properly managed on all DB security standards. DTMB will ensure internal reviews occur frequently and randomly on each agency's databases to ensure compliance. DTMB's Database Security Program Office will assign a DBA Security Specialist to work with each agency to assist in training DBAs on how to properly secure their databases following the 1340.00.14 standard and other best practices available. Installation of all Oracle database security program software is planned by October 1, 2015. Following the installation of the Oracle database security program software, a second phase of the program will configure and tailored deployment of each Oracle database security product to maximize the security protection of SOM agencies. For the second phase of the program, the required security business requirements analysis, and required implementation process and procedures are planned for completion by May 1, 2016. The Oracle software will provide for DBA access controls and least privilege implementation. Each agency will be responsible for the configuration and deployment implementation, and any agency that has not completed implementation by the planned completion date, will require an approved exception request to extend their completion date.

3. A formal training program would help ensure that DBAs effectively manage databases.

DTMB agrees with the recommendation. DTMB has conducted a training needs analysis to identify gaps in employee training and related training needs. DTMB will provide each SOM agency with training options and recommendations to ensure DBAs achieve an appropriate level of Oracle security competency, and maintain and enhance the DBA's knowledge of product improvements, proactive problem mitigation, and best practices by September 30, 2015. To achieve compliance with the audit recommendation, each SOM agency will be required to fund and plan the DBA training. In addition, an exception request will be required for SOM agencies that do not have a DBA training plan completed and funded by December 31, 2015.

4. Fully established security policies and procedures would help protect the State's databases.

DTMB agrees with the recommendation. DTMB established a Database Security Standards Committee (DSSC) in June 2013 which produced the first issuance of the SOM DTMB Database Security Standard 1340.00.15 in June 2014. The DSSC used NIST and COBIT information management standards and Oracle best practices during preparations of this initial standard and will add the use of the CIS Benchmark. DTMB

held SOM All DBA Workshops in 2013 and 2014 focused on the new 1340.00.15 standard and procedures. DTMB will expand the membership and assignments of the DSSC to more rapidly create additional identified standards and procedures. Additional standards will be included for: 1) Data Masking of sensitive data in non-production databases; 2) Additional Audit Logging and Monitoring; 3) Additional Database Configuration Baseline Controls. Updated Oracle Database Security Standards will be published by September 30, 2015. DTMB will use its established Database Security Program Office to perform periodic reviews of adherence to these security standards throughout each year in all supported agencies. This program will ensure that an enterprise integrated approach to protecting sensitive information from inappropriate exposure or loss will be maintained. DTMB will comply by May 1, 2016.

5. An improved system is necessary to help ensure proper database software license allocation and inventory accuracy.

DTMB agrees with the recommendation and has earmarked funding beginning FY17, for implementing a real-time system to manage software assets and licenses. This solution will manage all licensable software assets owned by State of Michigan Executive branch agencies. DTMB is currently conducting a review of existing tools and processes to improve overall software asset management as a whole. In addition, a business plan is being developed and will be presented to DTMB leadership for the establishment of a Software Management Services program within the next 90 days. The optimization of software license management is expected to be completed by September 30, 2018.