Data Security and Operational Performance of Montana’s Computer-Assisted Mass Appraisal and Tax System (Orion)

Bill Hallinan, IS Auditor
Orion is Essential to Montana’s Property Tax System

• 977,000+ properties of all types

• Ownership, maps, legal descriptions, sketches, pictures, sales agreements, appraisal dates, appeals, and owner information.

• Produces taxpayer assessments notices and report County assessed values by statutory deadlines.

• 20% of state revenues and 90% of local government revenues. $1.75 billion base on Orion’s data.
## Risks and Objectives

<table>
<thead>
<tr>
<th>Risk (Uncontrolled Loss of):</th>
<th>Example:</th>
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<tbody>
<tr>
<td>Confidential information</td>
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<tr>
<td>Efficient work practices</td>
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<td>Working knowledge</td>
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<td>Effective training</td>
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<td>Can a privileged insider accidentally or maliciously destroy, change, or add data?</td>
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<tr>
<td>Confidential information</td>
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<td>Data for tax calculations</td>
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<td>Security controls</td>
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<td>Archival records</td>
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<td>Statewide access</td>
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<td>Program functionality</td>
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<td>Speedy operations</td>
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<td>Recently saved work</td>
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<td>How often is Orion unavailable, slow, or caused work to be redone?</td>
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<td>Does Orion have high accuracy and reliability of Orion?</td>
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# Scope

## Stakeholders & Agreements
- Department of Revenue (DOR)
- Property Appraisal Division (PAD)
- Security Office (SO)
- State Information Technology Service Division (SITSD)
- Information Technology Office (ITO)
- The Vendor

## Systems
- Orion Computer System (file, application, data servers)
- Companion Systems (application and data servers)
- Infrastructure (network and remote connectivity)

## Data Dates
- January 1, 2018 to October 20, 2019
Audit Summary

**Orion** is supporting the processes it is supposed to.

Because **Orion** is the *second most important state IT asset fundamental to local and state revenue*, the partners that maintain Orion need to **focus** on their roles in providing *better service, performance, security controls, and training*.

- 4 concurred
- 3 conditionally concurred
- 1 partially concurred
#1 Establish Objective Baseline Expectations for Orion Performance

The department *concurs*.

- Each party has high expectations for their own services, but no shared expectations for Orion as a whole.
- Establish objective baselines for expectations for Orion performance.
- 14% to 42% of users reported experiencing some performance problems depending on their activity.
#2 Assign a Team to Manage Agreement Process

The department **partially concurs** pending further discussions with parties on the ability to enter into an enforceable Service Level Agreements (SLA).

**Best practice:** have agreements to **improve performance** and the means to **formally communicate** with parties involved.

**Effect of weak agreements:**
- **Frustrations** between parties.
- Accepting **lower expectations** for performance.
- **Dissatisfaction** with delays in resolving issues.
- **Difficulty** determining root causes.
#3 Mitigate Risks of Using Query and Analysis Tool

The department conditionally concurs based on a review for FTE request.

- PAD uses a query and analysis tool for reports and statistical analysis
- It’s useful and continues to grow.

**Effect of uncontrolled growth:**
- Crash of the report database
- No users logs. No who, what, when, where, how, why, so....
  - No measures for managing use
  - Easy to take Orion data
  - No coordinated performance improvements
#4 Prioritize the Orion Security Plan

The department concurs.

- Orion security plan was not updated.
- Access logs were not reviewed.
- Confidential data was exposed because some Orion subsystems were missing in plan.
- Orion security plan was second in priority after DOR’s income tax program.
#5 Monitor Contactor Access and
#6 Eliminate Shared Accounts

The department *concurs*.

When we brought issues to the department, they *addressed access issues*, but need more time to address account issues.

- Under certain conditions, *unauthorized users* may enter and make changes in the Orion.
- We found users with access *who were no longer* assigned to work in Orion.
- *Separation of duty issues occurred* when granting access to Orion.
- *One shared account* had administrative control of the Orion. It is shared by vendor and DOR Orion administrators.
#7 Review Orion Data and
#8 Coordinate Targeted Training based on Orion Data

The department **concurs** with coordinating training and targeting training, and **conditionally concurs** with reviews of log & data based on review for FTE request.

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**Training Informed by Data**
- Orion users report their favorite ways to train are trial and error, rather than downstream, based on actual usage.
- They shadow coworkers to learn.

**Benefits:**
- Leverages the value contained in existing data and log & QA.
- Errors are caught as they happen, making training more effective, efficient, and useful for changing behavior.

**Risks in Training Exist:**
- Introduces errors that have to be corrected later.
- Shadowing someone who doesn’t understand Orion well.

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The department concurs with coordinating training and targeting training, and conditionally concurs with reviews of log & data based on review for FTE request.
Thank You

Department of Revenue, the Property Assessment Bureau, the Information Technology Office, and the Security Office

Any Questions?