

# Protecting Your Assets Against Digital Service Fraud

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Government of Alberta

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Alberta

# Introductions



**Michael Schwab**

Dir., Application &  
Product Security  
Cybersecurity Services  
Government of Alberta

- 20 years information management experience
- Public & private sector experience
- Worked in software design and development, consulting, architecture, cybersecurity, and management roles.

- 7 years information technology experience
- Public & private sector experience
- Participated in a wide variety of security implementations and transformations



**Tasha-Gaye Braham**

Information Security Officer  
Cybersecurity Services  
Government of Alberta

# Agenda

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Risks in migrating service delivery from in person to digital



Fraud types affecting government digital service delivery



Digital service fraud impacts



Digital service fraud detection and prevention controls



# Risks in Migrating Service Delivery from in Person to Digital

# Digital Service Fraud

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## What is it, How it Works, and its Importance



Service fraud perpetrated using digital technologies or channels



Used by persons who are non-eligible to access the service



Can use online platforms, websites, social media, or mobile apps



Increasingly popular due to organizations adopting more digital services



# The Fraud Triangle

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If any one of these elements are absent, the chance that fraud will be attempted is negligible. The only element an organization can control is the:

**Opportunity**

**Motivation**  
**Rationalization**  
**Opportunity**

# Digital Service Fraud Tactics



Social Engineering



Synthetic Identity



Phishing



Fake Websites

Digital service fraud tactics in Canada are **constantly evolving** and becoming **more sophisticated**



Impersonation



Payment Fraud



Account Takeovers

*Digital fraud attempts in Canada have seen a **189%** spike from pre-pandemic levels (TransUnion, 2023)*



# Risk Migrating to Digital Service Delivery



## Technology

Infrastructure for implementation

Service disruptions from technical issues

## Cybersecurity

Vulnerabilities and risks inherent with online technologies



## Legal & Regulatory

Compliance to applicable laws and regulations

Data privacy



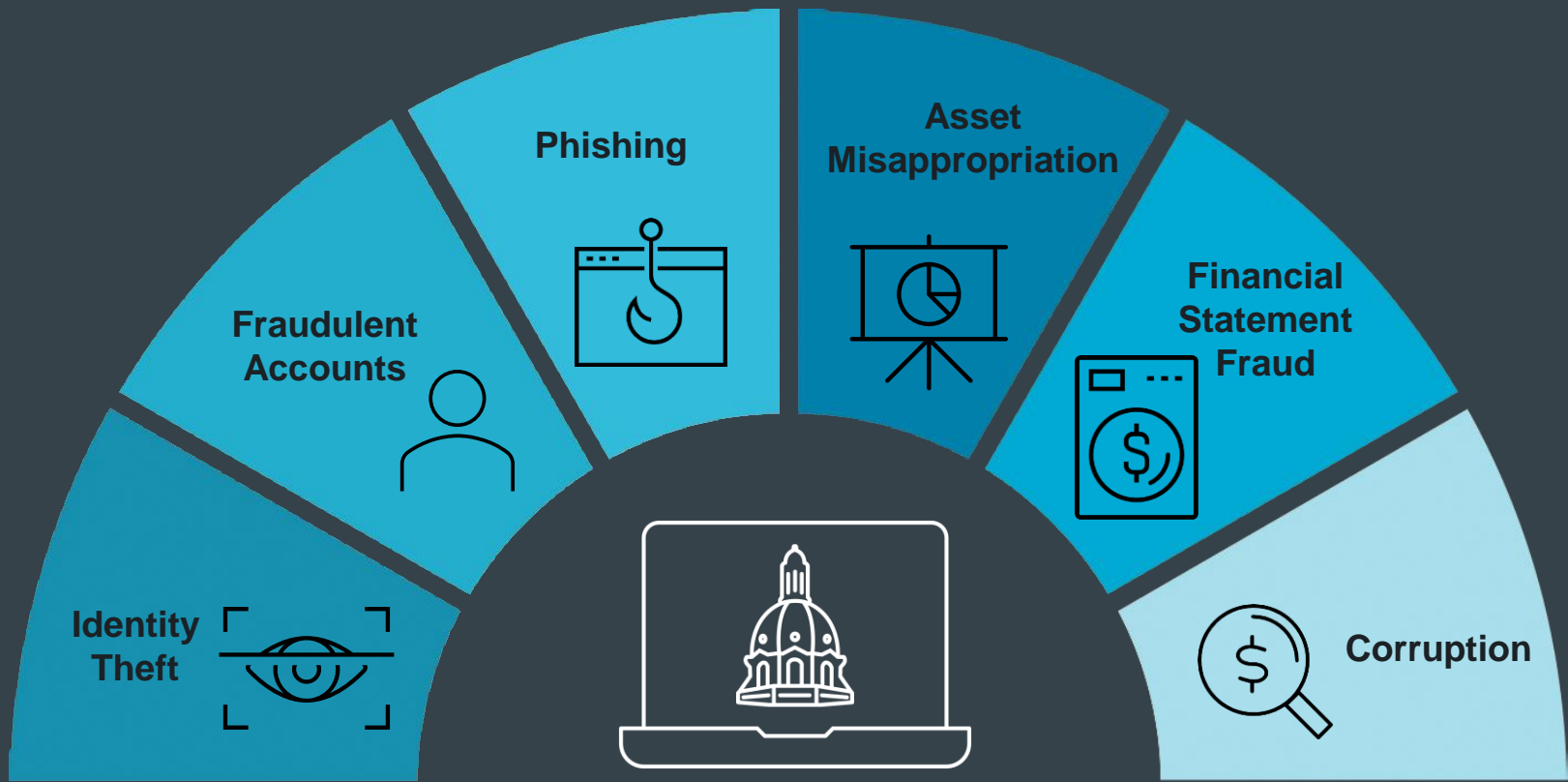
## User Experience

Consistency of service  
Transition to digital service delivery





# Fraud Types



# Fraud Types Affecting Government Digital Service Delivery



# Digital Service Fraud Impacts

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## Identity Theft

- Collection of **personal information** via phishing and social engineering means
- Leverage **another person's information** to take over or apply for funding
- Potentially **breach** other personal and sensitive information



# Digital Service Fraud Impacts

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## Financial

- Fraud against government may be viewed as **victimless** a crime
- **Diverts funding** from intended purpose
- Allocation of resources away from program delivery to investigation and prosecution

“  
Calgary Police: Student  
Aid Fraud Charges  
\$240k

*Stolen identity and personal  
information already  
impacted by other data  
breaches and mail theft*

*\$25-38k loans approved per  
impersonated student*

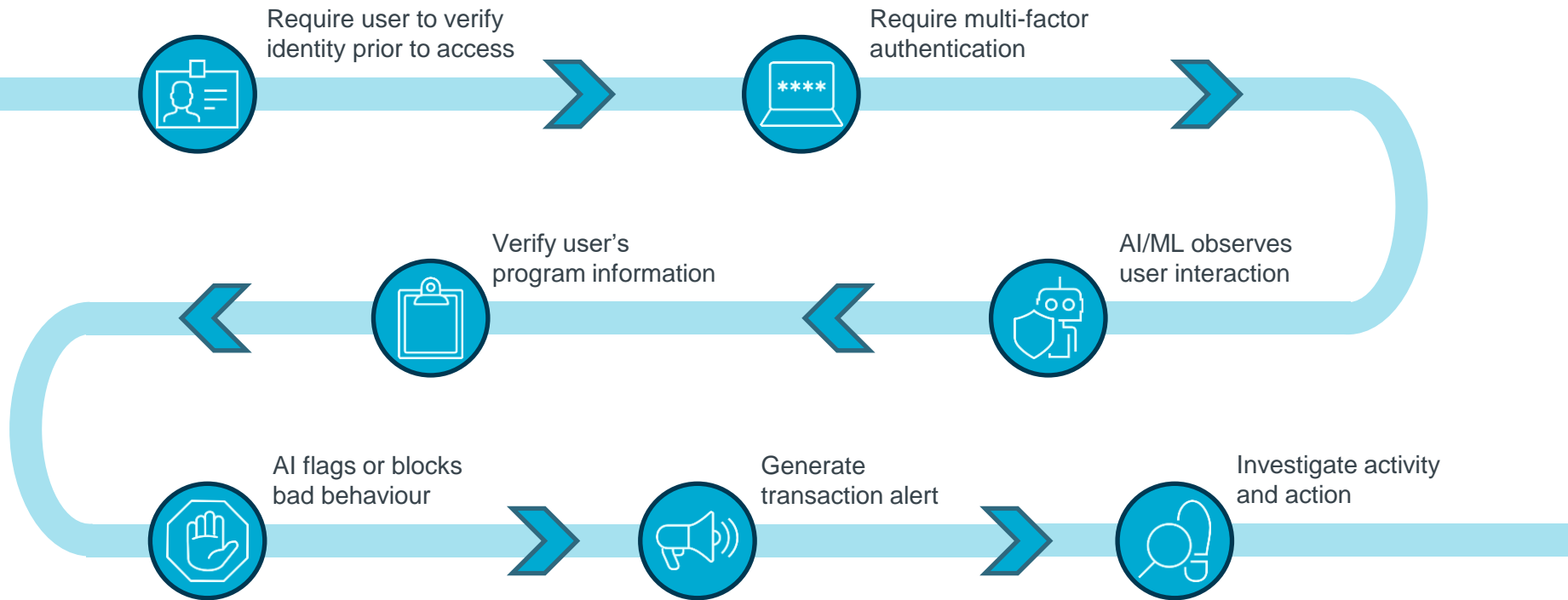
*(City of Calgary, 2021)*”



# Digital Service Fraud Detection and Prevention Controls



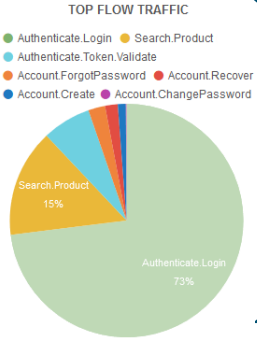
# Digital Service Fraud Detection and Prevention Controls



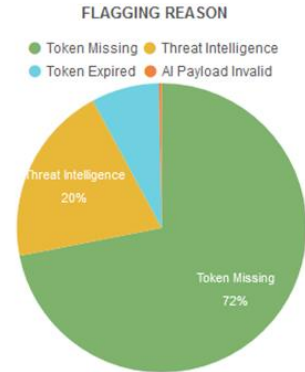


# Apply Artificial Intelligence and Machine Learning

Machine Learning (ML) model trained on classifying user behavior

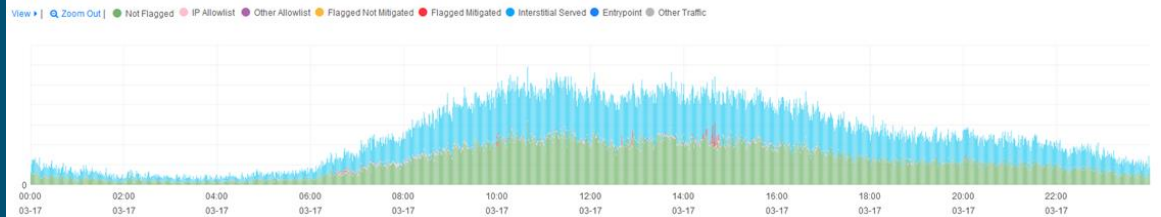


Artificial Intelligence (AI) uses the ML model for automatic, real-time inspection and response to flag or block inappropriate behavior



The AI response can inform investigations after the interaction for follow up actions to protect account or system data

THREAT OVERVIEW



# Incident Investigation

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**Automated  
AI/ML  
detection**

**Assess  
incident  
scope**

**Triage actions  
required to  
investigate and  
treat incident**

**Coordinate  
response  
actions**

**Notify  
affected  
parties**

# Summary

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- Opportunity is the only controllable aspect of fraud
- Fraud threats continue to evolve at an accelerated rate
- Fraud can take many forms from identity theft to financial
- AI and ML are helpful to keep pace with fraud threats, but not a silver bullet
- Requires a layered defense for fraud detection and prevention including investigation coordination and follow up actions

# Questions?

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