Transforming child care with a Modern Data Stack. MN DHS + Databricks & dbt

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PRESENTERS

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WHO IS MN DHS?

Minnesota Department of Human Services, Office of Inspector General

- Medical assistance (Medicaid), child care assistance, income and food assistance, behavioral health, and housing assistance, home and community based services.

- Regulatory licensing and maltreatment investigations for programs serving vulnerable populations

- Background studies for individuals working in DHS, MDH, and DOC programs

- Program integrity of public funds by identifying potential fraud, waste, and abuse

IN CONTEXT: A BURDENSOME PROCESS

Abbreviated Child Care Licensing Inspections

- Required annual review of every licensed child care provider in state

  - Performed in-person, ~4-hour process

  - 300 – 700+ item checklists gone through by licensor and provider

    - Adequate number of toys in each room

    - First-aid kit with correct contents

    - Allergy informational postings

- Heavy burden on both licensors and providers

  - Licensors perform inspections on top of other work (investigations, assisting providers)

  - Providers must take time away from caring for children

IN CONTEXT: A VISION FOR RELIEF

Abbreviated Child Care Licensing Inspections

- Legislative approval granted to design and pilot abbreviated inspections
  - High risk rules
  - Random selection of checklist items
  - **Key Indicators**
- Reduces checklist from 300 -700 + to 60+ items
  - Frees up licensors to assist providers struggling with compliance issues
- **Strict eligibility requirements**
  - Tenure, prior compliance, complaint history
  - Requires near real-time access to data for up-to-date determination
- **Monitoring and updating of key indicator's statistical relevance**

IN CONTEXT: CHALLENGES FACED

Abbreviated Child Care Licensing Inspections

- Heavily siloed data
  - Eligibility, inspection, complaint, payment, program data all used but split by funding source or specific program

- Limited access to near real-time
  - Legacy systems and manual processes hamper ability to react quickly

- Burdensome for analysts
  - Complex source documentation, lineage tracking, access models all impact analyst onboarding and capacity

TOOL SELECTION

Addressing challenges with strategic choices

Fivetran

- Simple implementation
- Near real-time via change data capture (CDC)
- Supports future streaming use cases
- Low maintenance

databricks
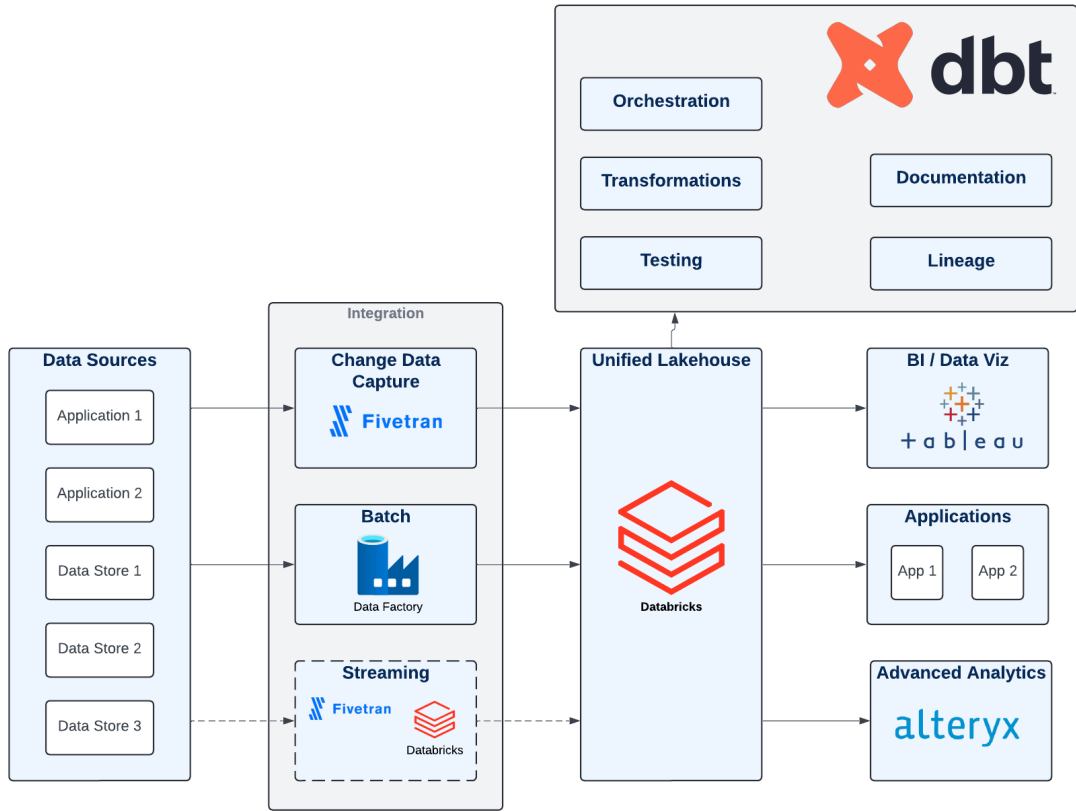
- Centralized, unified data store
- Simplified access and security
- Highly scalable
- Streaming support
- Ease of integration with other tools

dbt

- Flexible data model development
- Testing for business-critical workflows
- Lineage and documentation accessibility
- Simple deployment process
- Straightforward onboarding

DATA PLATFORM ARCHITECTURE

BENEFITS REALIZED

- Centralized, unified data

  - Enables holistic view of activity across programs

- CDC and streaming support

  - Enhances ability to react quickly to critical issues

- Easy onboarding, development and deployment

  - Frees up analysts to focus on providing insights and solutions that impact people's lives and livelihoods

  - Increases operational efficiency and effectiveness of OIG licensors

- Automated Testing and Documentation

  - Builds confidence in using platform to trigger critical actions

UNLOCKED BUSINESS OPPORTUNITIES

- 5,000 hours of licensor time that can be rededicated to providing technical assistance to program struggling to meet compliance

- Licensed providers feel less regulatory burden

- Central location of data greatly increases feasibility of Entity Resolution with MDM approach

- Enables enhanced fraud, waste, and abuse monitoring

    - Previously hindered by siloed data and lack of real-time support

    - Improved ability to identify connections across multiple publically-funded programs

- Opportunity to improve integrated eligiblity across programs

THANK YOU

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