

# Colorado Department of Public Health and Environment

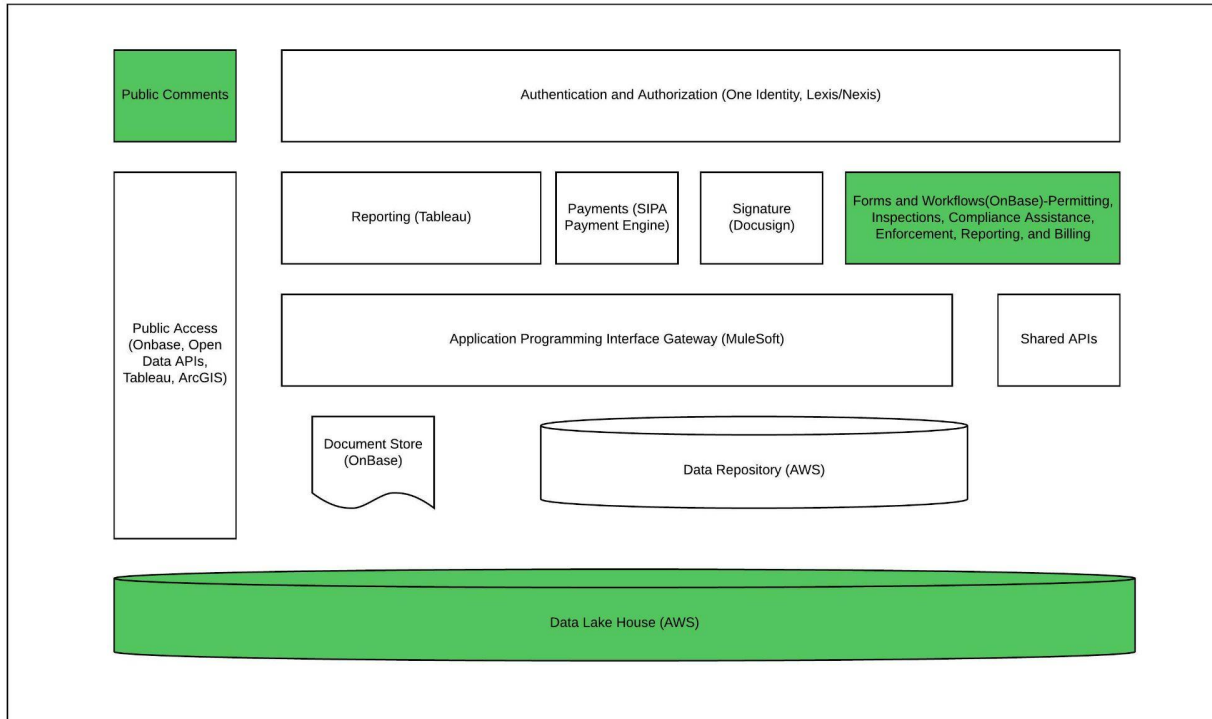
## IT Modernization to Support our Air Quality Goals

Joint Technology Committee  
September 14th, 2022

# Stationary Sources System Project Summary

- A capital IT project to modernize the outdated stationary sources data system used by CDPHE, Air Pollution Control Division (APCD).
  - FY23: Year 1 of 3, \$4.1M
- The Stationary Sources database is the primary technology tool used by APCD to manage permitting, inspections, enforcement, compliance, billing, emissions, and data reporting associated with stationary sources
- The system scope is broad with 2,500 companies and 14,000 facilities
- Stationary source regulated entities include oil and gas, power utilities, manufacturing, construction, landfills, agriculture, mining, and retail (e.g., gas stations, dry cleaners)
- The Stationary Sources Database is an outdated technology – (developed in the mid-1990's)
- The system is paper-based, inefficient, and lacks critical functionality and agility

# Proposed Architecture of the Air Stationary Sources Solution



Green represents areas APCD is actively working on

# Project accomplishments since the last update

Hiring- Data Manager, Product Owner, and Data Visualization Specialist interviews completed

## CDPHE-OIT Partnership

- Enterprise Architect has been hired

- Identify Data Architecture support

- Identifying Salesforce licensing costs and scoping the proof of concept.

  - Salesforce is OIT approved, and is a low-code/no-code solution.

- Kickoff meeting with OIT and AWS on the Data Lakehouse proof of concept

Public Comment Software procurement finalized and purchase pending

- Software is an off-the-shelf tool used and recommended by other states

# Project accomplishments: Stakeholder Engagement

## Planned Outreach Activities

- Scoping Discussions planned with several community members from diverse geographic areas
- Fact Sheet Underway
- Prepare Announcement (Distribute directly, use APCD and EJ Listservs, social media)
- Targeted email and calls (Sept. 30 to Oct. 24)
- Convene 2-3 meetings (Oct. 31 to Nov. 21)

# Deeper Dive: the Data Lakehouse Approach

## Data Warehouse

- Structured data
- Good for reporting
- Typically smaller sizes (spreadsheets, data fields, etc)



## Data Lake

- Unstructured data
- Raw content
- Large data files (pictures, videos, sound recordings, etc)

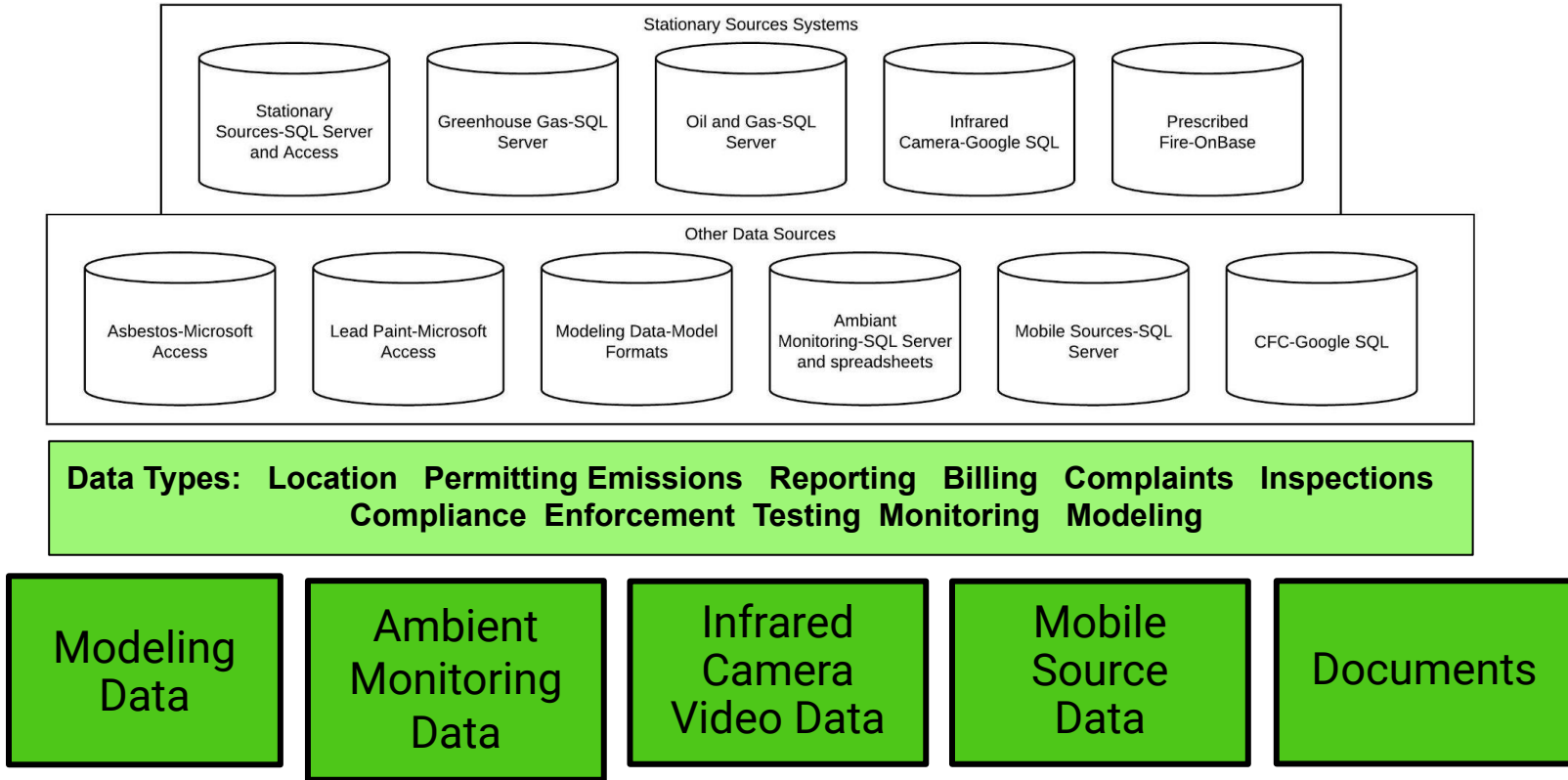


## Data Lakehouse

- Houses structured and unstructured data (combining the best of both worlds)
- One data repository
- Make use of metadata (information within text, video or picture files)
- Allows for “smart” analysis



# Sample of what a Lakehouse means for APCD Data



# Any issues/concerns the team has related to the project

- Thrilled that we had strong candidate pools for hiring the data team.
- This month we have really focused on developing the most illustrative proofs of concept while wanting to move quickly.
- We are not only looking at off-the-shelf but also trying to understand where we can build off work the executive branch has already done.
- Beyond that and the big questions reviewed last month, no concerns!



# Project plans for the next period (through October 18th, 2022)

Anticipated updates for the October JTC meeting

Hiring update

Salesforce proof of concept progress

Data Lakehouse AWS proof of concept

Monitor implementation of the Public Comment Software

Stakeholder engagement updates

# Any help that's needed from the JTC/legislature

Please continue to connect your constituents to the upcoming stakeholder engagement and help us identify other opportunities to solicit feedback

# Thank you!

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