

# CartoDB - Geospatial Visualization & Analysis

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# Online Mapping Platforms - 1

|               | AGO   | CartoDB                              | Mapbox  |
|---------------|---|--------------------------------------|---|
| Pricing Basis | <u><a href="#"># of Named-users + Service Credits</a></u> | <u><a href="#">Storage, etc.</a></u> | <u><a href="#">Map Views + Active Users + Storage</a></u> |
| Ecosystem     | Esri  | Open Source                          | Open Source   |
| Database      | Supported by ArcGIS                                       | Postgis                              | Postgis   |
| Editing       | AGO Editor  | ID ?                                 | OSM ID  |

# Online Mapping Platforms - 2

|                | <b>AGO</b>                                  | <b>CartoDB</b>                | <b>Mapbox</b>                         |
|----------------|---|-------------------------------|---------------------------------------|
| Styling        | Pre-authored?                               | Interactive                   | Pre-authored                          |
| Analysis       | AGO Analysis                                | SQL API                       | ?                                     |
| Targeted Users | GIS Analyst & Developers                    | GIS Analyst & Developers      | Developers                            |
| Web APIs       | JavaScript<br>Esri Leaflet<br>WebAppBuilder | CartoDB.js<br>SQL<br>CartoCSS | Mapbox.js<br>Mapbox GL JS<br>CartoCSS |

# What Does Open Source Mean?

Community & Driving Contributors

Open Source Ecosystem

Business Model

- Lower service charges

- On-premises installation

# Before Labs Start ...

## Quick tour

Data Options, Projections

Map View and Data View

Info Window, Preview, Publish, Export ...

Sign up @ [www.cartodb.com](http://www.cartodb.com)

## Lab data folder

C:\CartoDB Workshop

# Lab 1: ASU Campus Map

Build and publish interactive map for desktop user and smart phone users

Post-lab discussion

20 minutes

# Time Series Data and Maps

## Blending Time and Space

- Maps tend to flatten dynamism of temporal data
- Powerful questions involve space and time
- Data integration

## Time Series Data Overview

- [Taxi Trips](#)
- [Alcatraz Escape](#)
- Crash analysis
- Snow removal

# Lab 2: Time Series Visualization

## Key Objective

- Explore powerful data visualization tools in CartoDB

## Hands On

1. Data prep
2. Create new map
3. Load data to map
4. Create Torque Map visual
5. Tweak settings to taste



# CartoDB Data Integration Options

## FME (Feature Manipulation Engine)

Supports CartoDB format

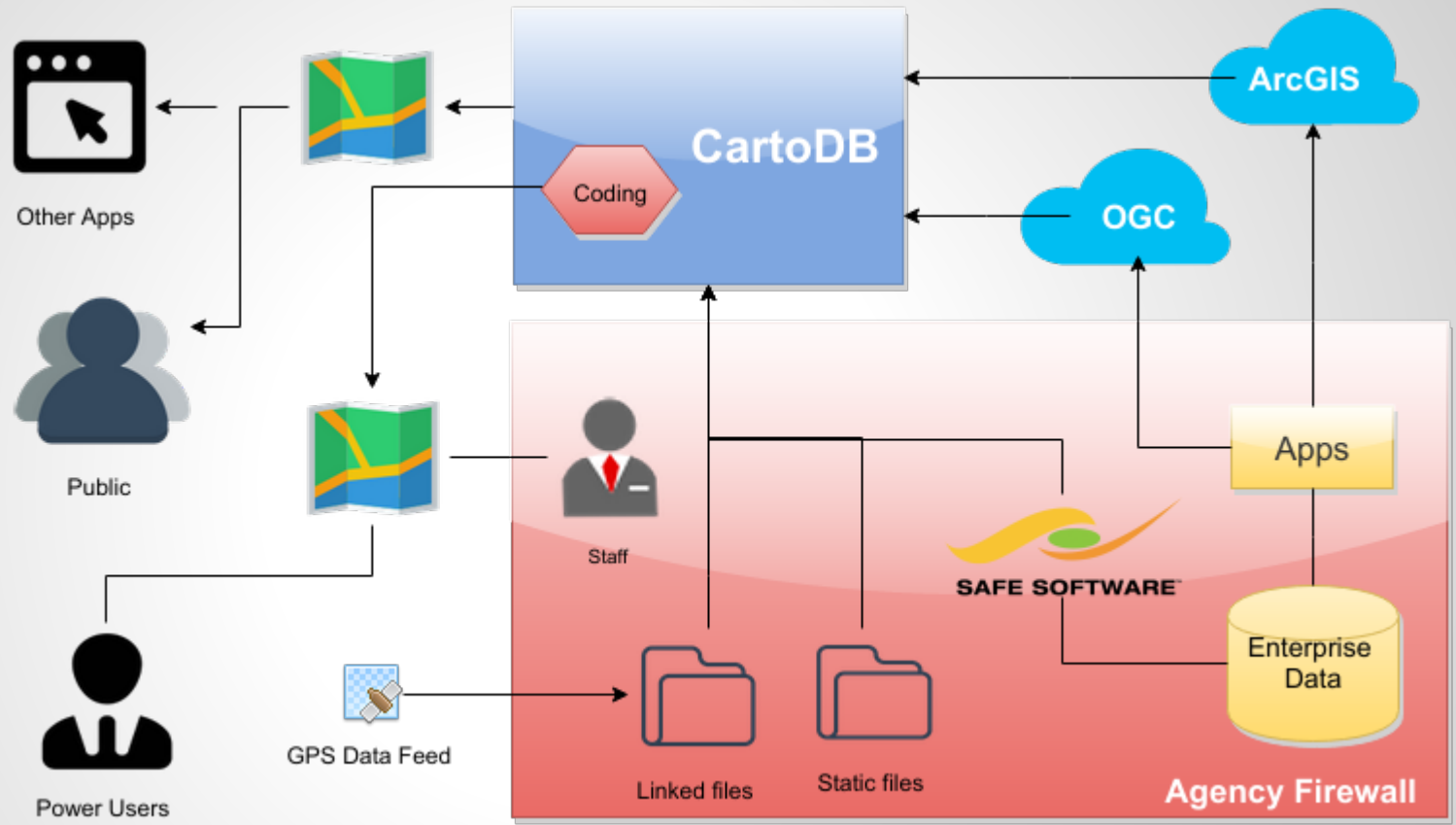
## OGC Services

CartoDB handles WMS/WMTS services

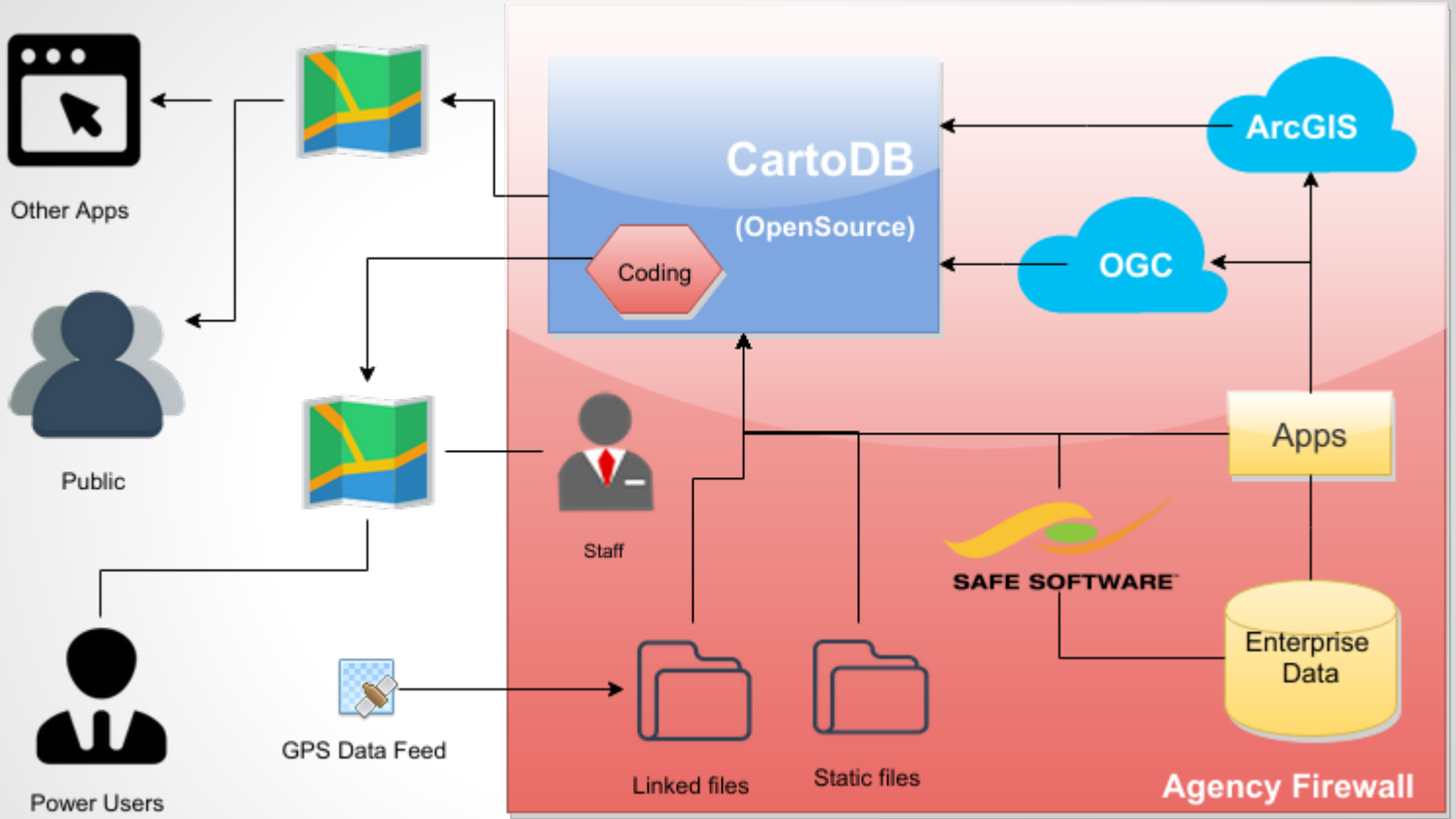
## Direct PostgreSQL Access

Install CartoDB as your own cloud for free!

# CartoDB & Enterprise - 1



# CartoDB & Enterprise - 2



# Developer Resources

Cartodb.js <http://docs.cartodb.com/cartodb-platform/cartodb-js.html>

GDAL and CartoDB [http://www.gdal.org/drv\\_cartodb.html](http://www.gdal.org/drv_cartodb.html)

Access CartoDB from ESRI <http://odoe.net/blog/cartodb-with-arcgis-api-for-javascript/>

CartoDB & OpenLayers <http://gis.stackexchange.com/questions/89910/cartodb-map-in-openlayers>

Development Videos <https://vimeo.com/channels/cartodb>

# Lab 3. Food Desert Maricopa County

Identify Under-served Population

Data Sourcing and Prep

Analysis through SQL

Discussion

# SQL Identifies Under-served Public

```
WITH buffered_mrks AS (SELECT cartodb_id,  
    ST_Transform(ST_Buffer(  
        ST_Transform(the_geom, 3857),  
        5000),  
        4269) AS the_geom  
FROM statewide_markets )  
SELECT a.*  
FROM tl_2010_04_bg10_1 a, buffered_mrks  
WHERE NOT ST_Intersects(a.the_geom, buffered_mrks.  
the_geom);
```