Building Energy Data Analysis (BEDA) Accelerator

December 11, 2018

Working Call

Agenda

- Roll Call

- Revisiting Q1 Goals & Milestones

- Data Example: California Energy Commission

- How to share your data

Milestones: Now – March 2019

- ## Partners:
  - Data sources – required for generation of UBIDs
  - Starting point for integration of UBIDs
- ## DOE/PNNL
  - Complete UBID system of record
    - In development now, will present to the group on the January call

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- **California Energy Commission Data:**
  - Points, not polygons (similar to CRE datasets?)
  - Promising match rate relative to City of SF data
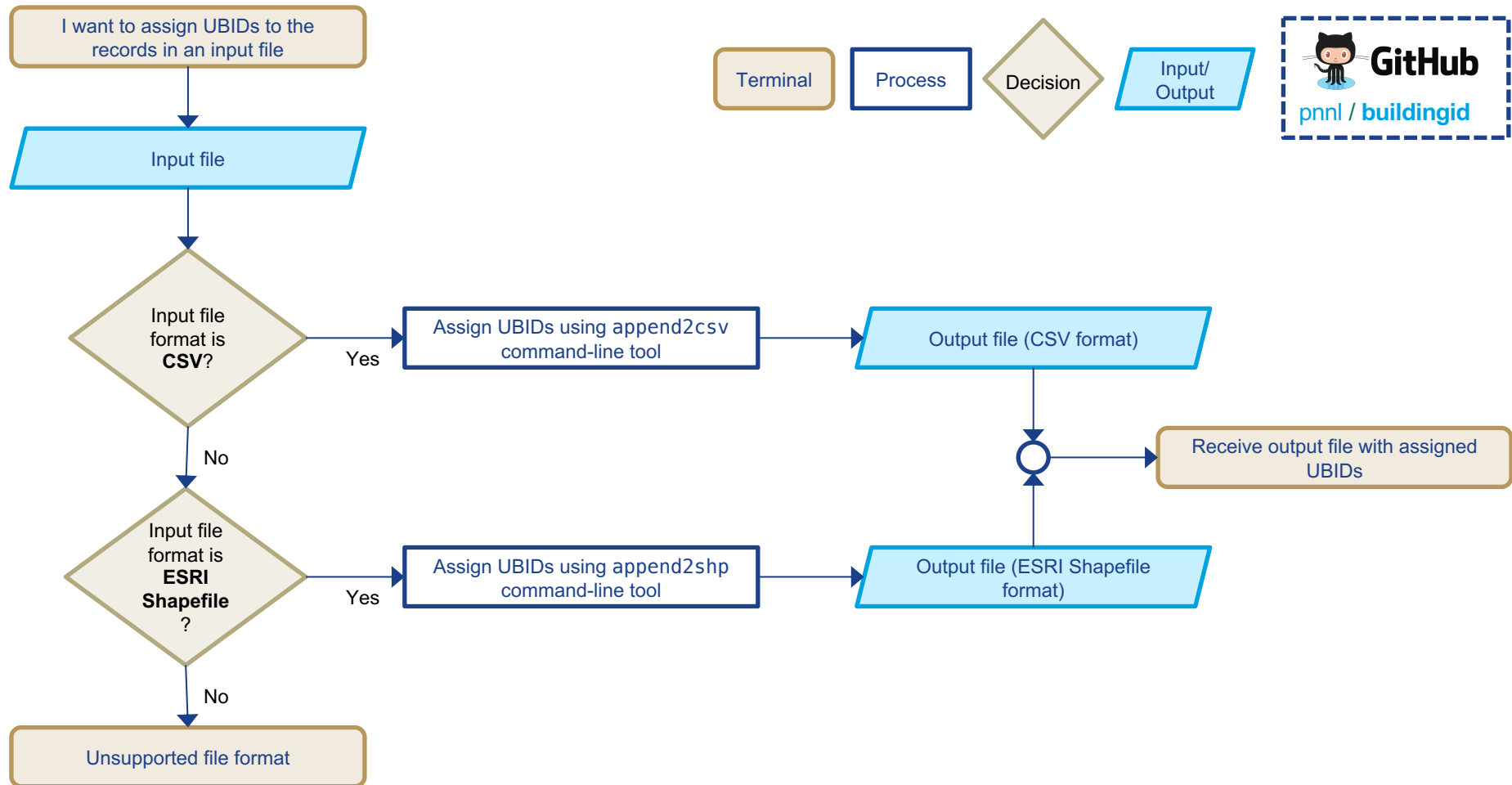 - Next Step: extrapolating full extent UBIDs from CEC data, applying methodology to other Partner data sources

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Flowchart: UBID Assignment

- ## User story:
  - "As a **data provider**, I want to **assign UBIDs to the records in my input file(s)** so that I can **apply UBID software tools to the output file(s)**."

- ## Supported file formats:
  - Delimiter-separated values (e.g., CSV and TSV)
  - ESRI Shapefile

- ## Conversion from ESRI Shapefile to CSV is also supported, if needed.

Flowchart: UBID Assignment (cont.)

- Outputs:
  - append2csv
    - Input file with added "UBID" column for each row.
  - append2shp
    - Input file with added "UBID" field for each shape.

- Names of added columns/fields are user-specifiable (default: "UBID").
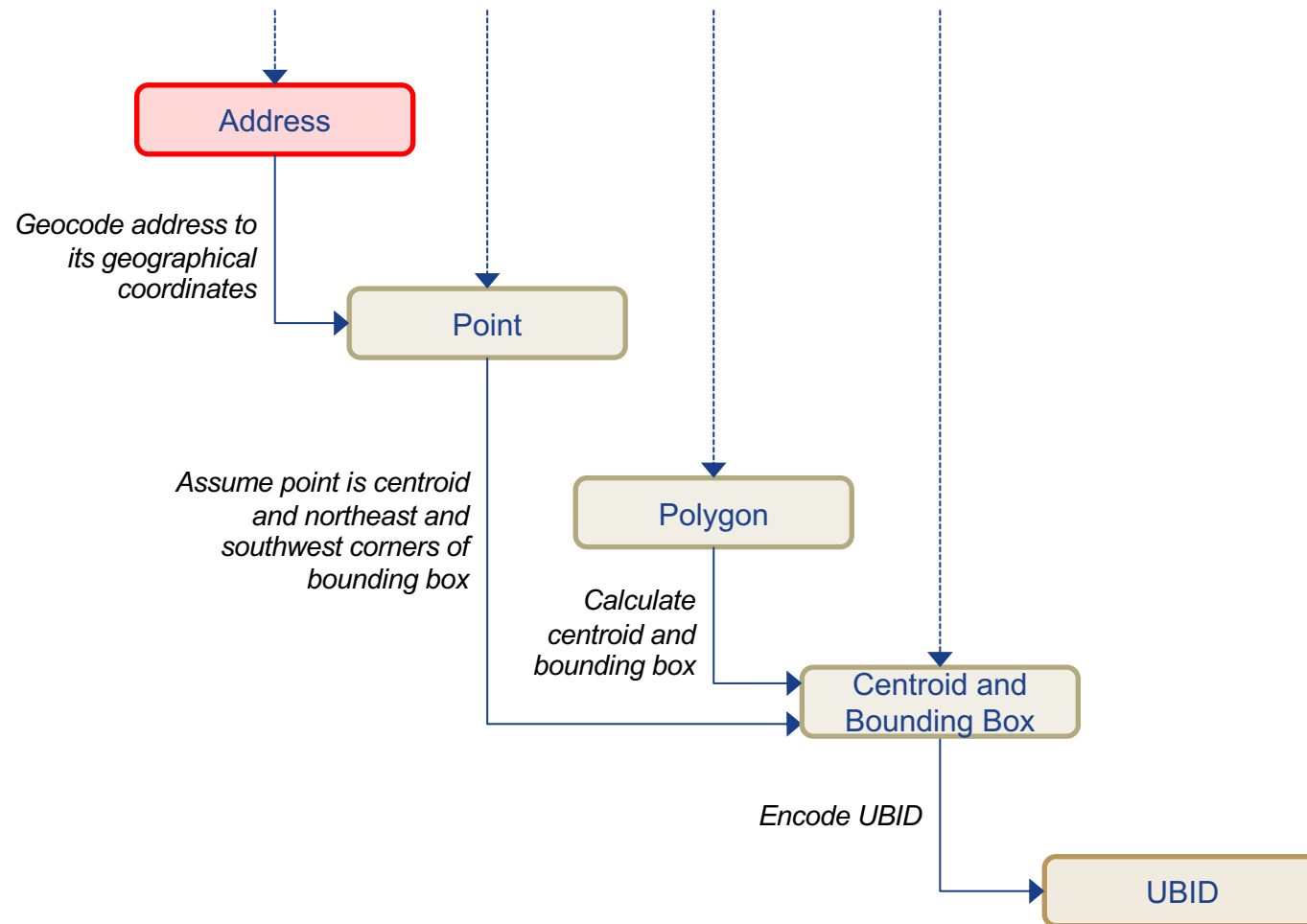
Flowchart: UBID Assignment (cont.)
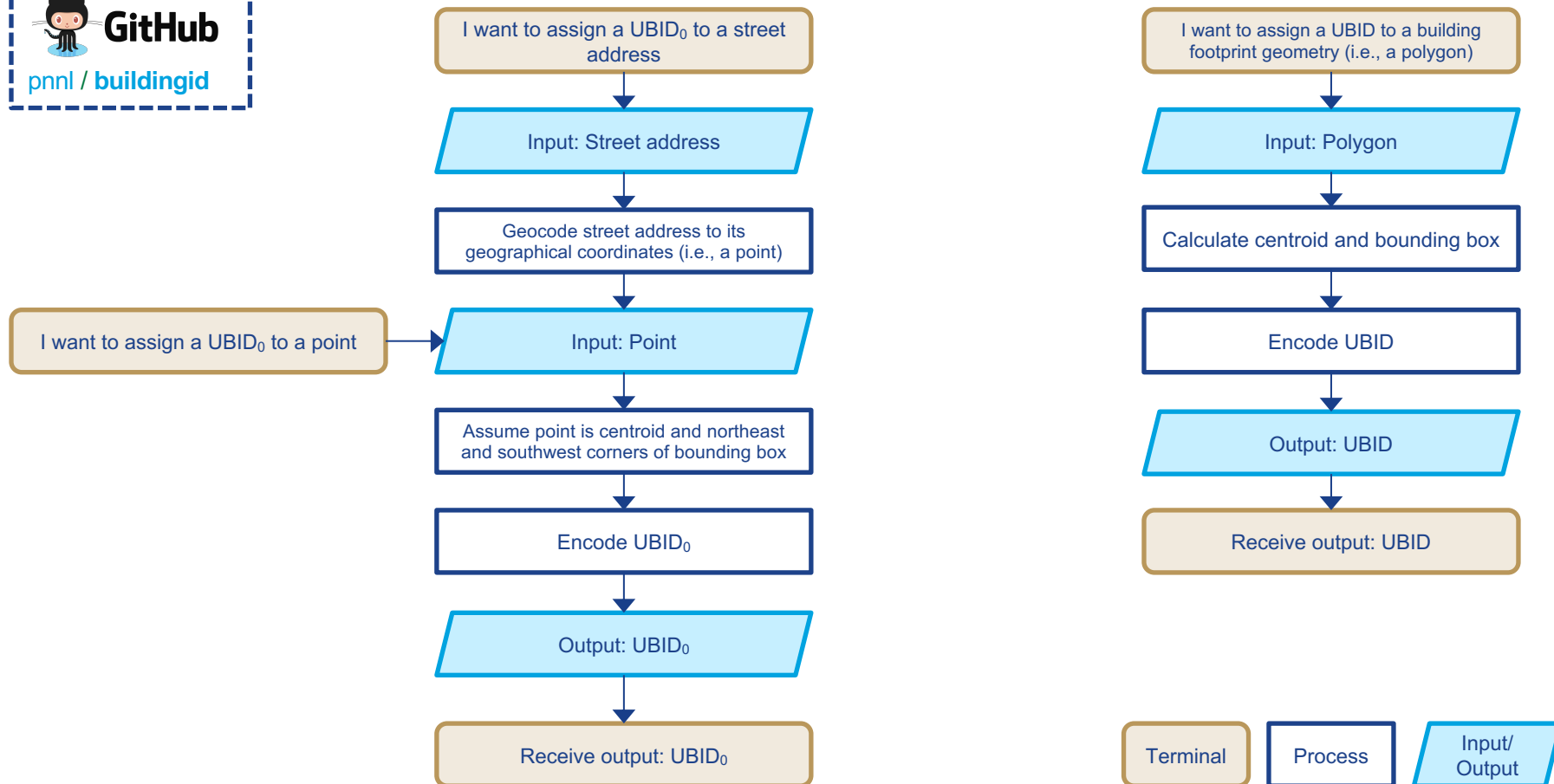
UBID Input Data Types

- Minimum data requirements for UBID encoding operation:
  1. Latitude and longitude coordinates for (i) centroid and (ii) northeast and (iii) southwest corners of minimum bounding box; and
  2. OLC grid resolution.

- Goal:
  - Satisfy the minimum data requirements for the UBID encoding operation.

- If the data provider has…
  - Addresses:Geocode to the corresponding coordinates (viz., points).
  - Points: Assume points are (i), (ii) and (iii).
  - Polygons: Calculate (i), (ii) and (iii).

UBID Input Data Types: Processing

Address

Geocode address to its geographical coordinates

Point

Assume point is centroid and northeast and southwest corners of bounding box

Polygon

Calculate centroid and bounding box

Centroid and Bounding Box

Encode UBID

UBID

UBID Input Data Types: Processing

GitHub
pnnl / **buildingid**

I want to assign a $UBID_0$ to a street address

↓

Input: Street address

↓

Geocode street address to its geographical coordinates (i.e., a point)

↓

I want to assign a $UBID_0$ to a point → Input: Point

↓

Assume point is centroid and northeast and southwest corners of bounding box

↓

Encode $UBID_0$

↓

Output: $UBID_0$

↓

Receive output: $UBID_0$

I want to assign a UBID to a building footprint geometry (i.e., a polygon)

↓

Input: Polygon

↓

Calculate centroid and bounding box

↓

Encode UBID

↓

Output: UBID

↓

Receive output: UBID

Terminal | Process | Input/Output

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Questions & Contact

Websites:

- BuildingID.PNNL.gov
- UBID.PNNL.gov
- betterbuildingssolutioncenter.energy.gov/accelerators/building-energy-data-analysis

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