

**2013 Esri International User Conference**

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**Technical Workshop**

# **Geocoding – An Introduction**

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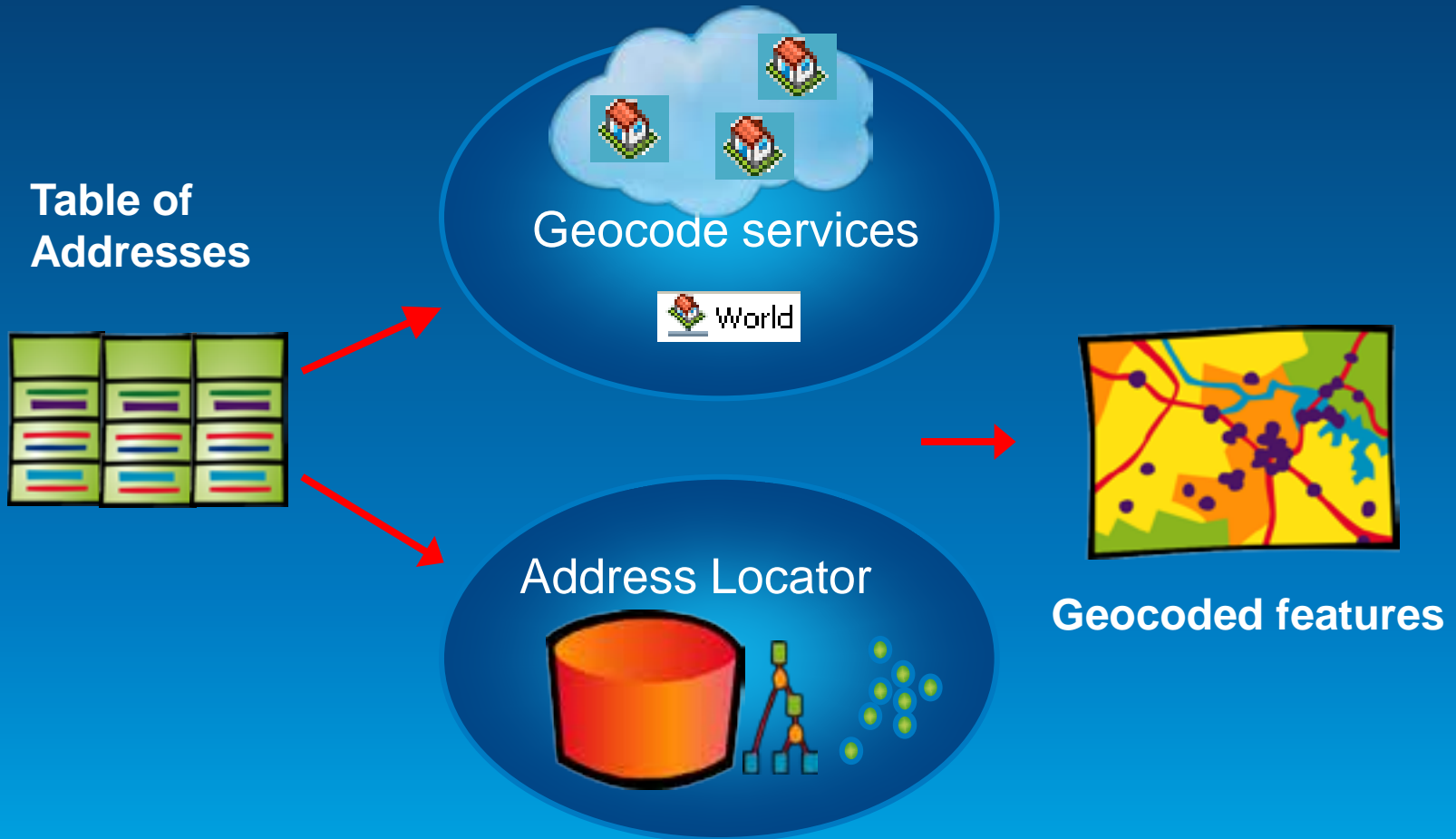
# Agenda

- What is geocoding?
- Overall workflow of geocoding
- Geocoding with ArcGIS Online
- Geocoding with ArcGIS

# What is Geocoding?

- **Geocoding**: A GIS operation to transform a description of a location—such as a pair of coordinates, an address, or a name of a place—to a location on a map.

# What is a locator / geocode service?



# Address Locators in ArcGIS

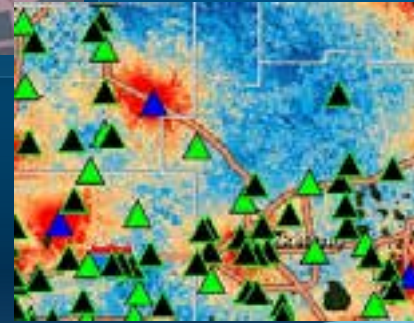
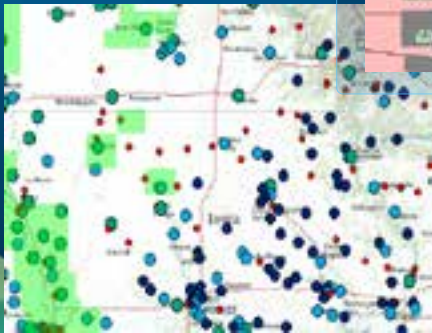
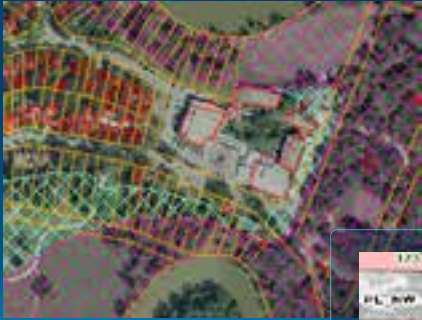
- Defines the process for geocoding
- Stored in a File folder or geodatabase
- Can be published as a service

# Ways to find geocode services for geocoding



# Demo

- Finding an address



**I am an analyst working in an insurance company, please just show me how to geocode my addresses.**



# Geocoding addresses



# Ways to do Geocoding

Reverse



Batch

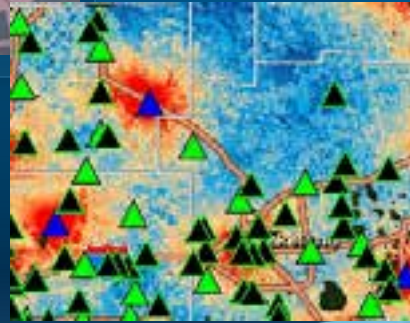
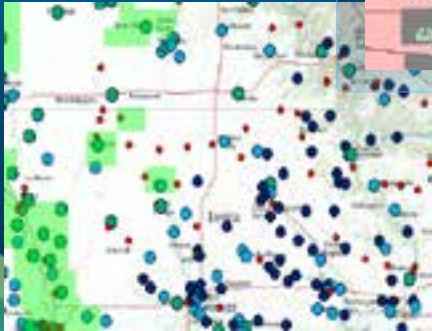
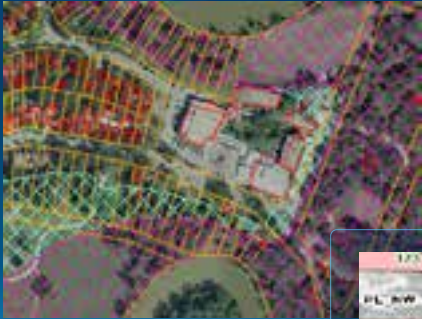


Interactive



# Demo

- Geocoding with ArcGIS Online



# Geocoding with ArcGIS.com

- ArcGIS Online

The screenshot displays the ArcGIS Online 'My Map' interface. The map shows a world view with several red circular markers indicating geocoded locations. The markers are concentrated in North America and Europe. The interface includes a top navigation bar with 'New Map', 'My Content', 'Help', and 'Sign in'. Below this is a toolbar with 'Details', 'Add', 'Basemap', 'Save', 'Share', 'Print', 'Measure', and 'Bookmarks'. A 'Contents' panel on the left shows 'countryAddresses' checked and 'Topographic' selected. A Notepad window is open in the foreground, displaying a CSV file named 'countryAddresses.csv' with the following content:

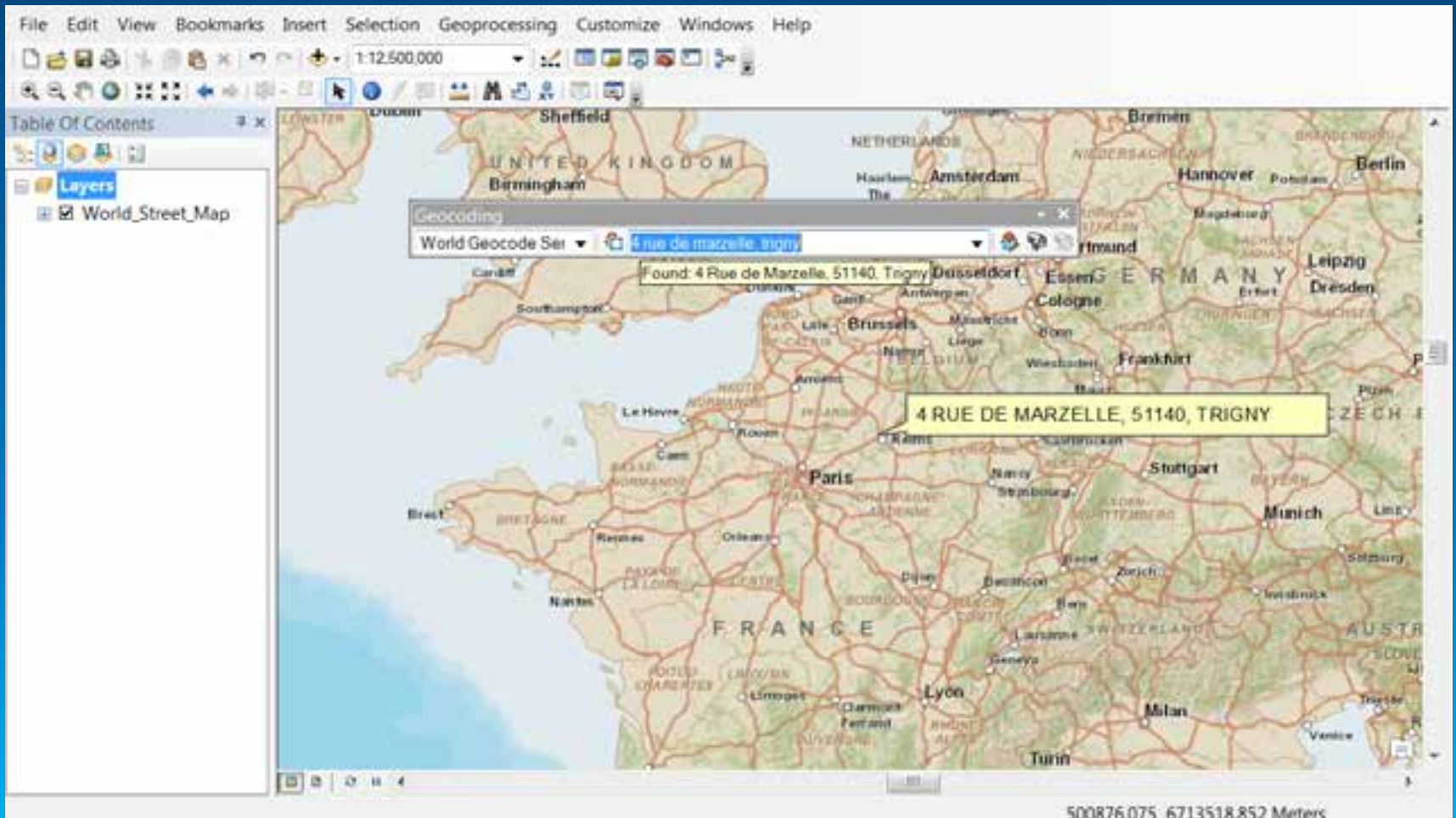
Country	Address
Australia	"75 Stevenson Street, Kew, VIC, 3101
Austria	"Adalbert Stifter-Str 34, 1200, Wien
Belgium	"Boudewijnlaan 2, 3200 AARSCHOT
BoeniaAndHerzegovina	TELENIH BERETKI 26 SARAJEVO BIH
Brazil	"Avenida Tabajaras 1764, 17604-020 TUPA-SP
Bulgaria	"10 PORUCHIK KRISTO TOPRANCHIEV, 1528 SOFIA
Canada	"353 ANNE ST N, BARRIE, ON, L4N 7Z9

The Notepad window also shows the file path 'C:\UC2013\demo\countryAddresses.csv' and status information: 'Esr Not length: 3547 lines: 33 Ln:1 Col:1 Sel:0|0 Doc:Windows ANSI as UTF-8 INS'.



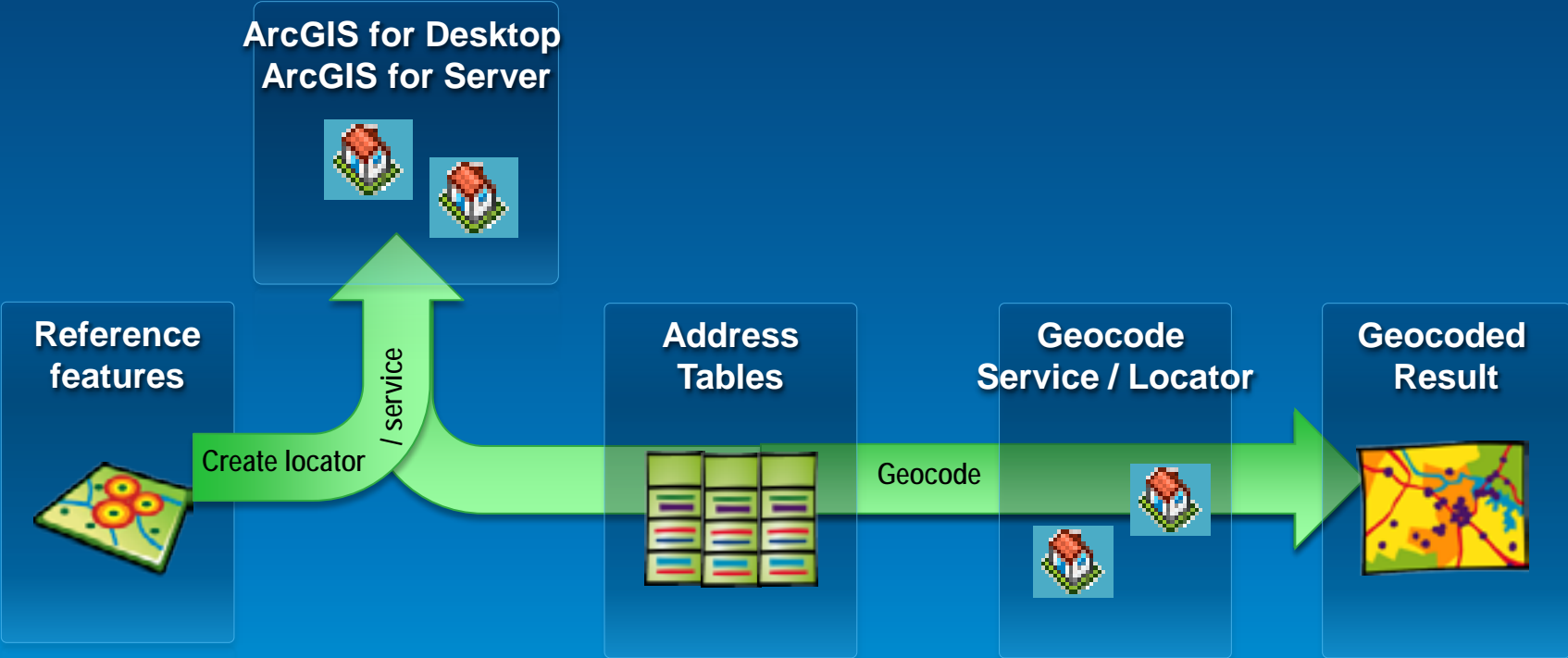
# Geocoding with World service

- ArcMap

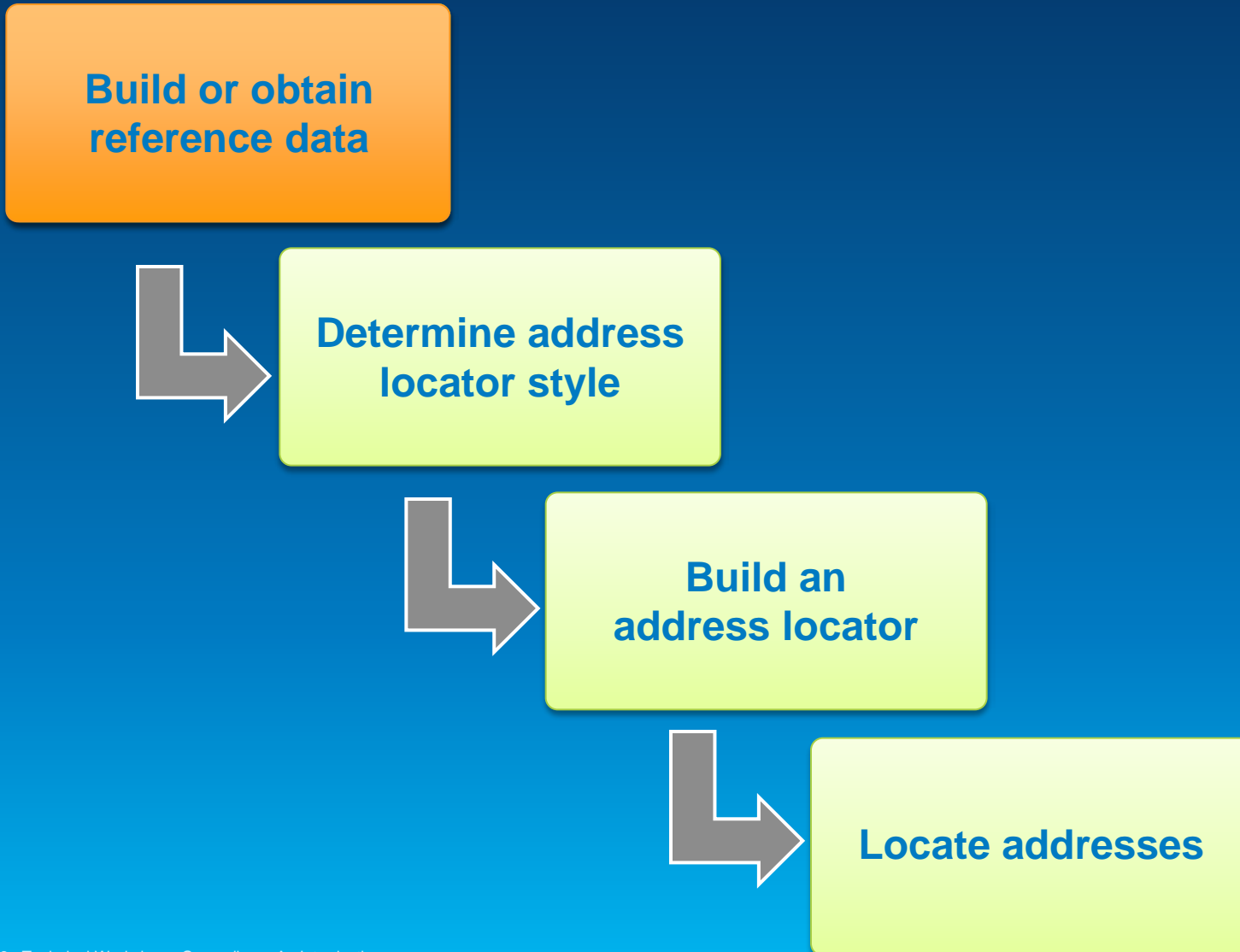


**I am a GIS specialist working in the county government, please show me how to use my data to create address locators or services.**

# Workflow of geocoding



# Geocoding with a locator



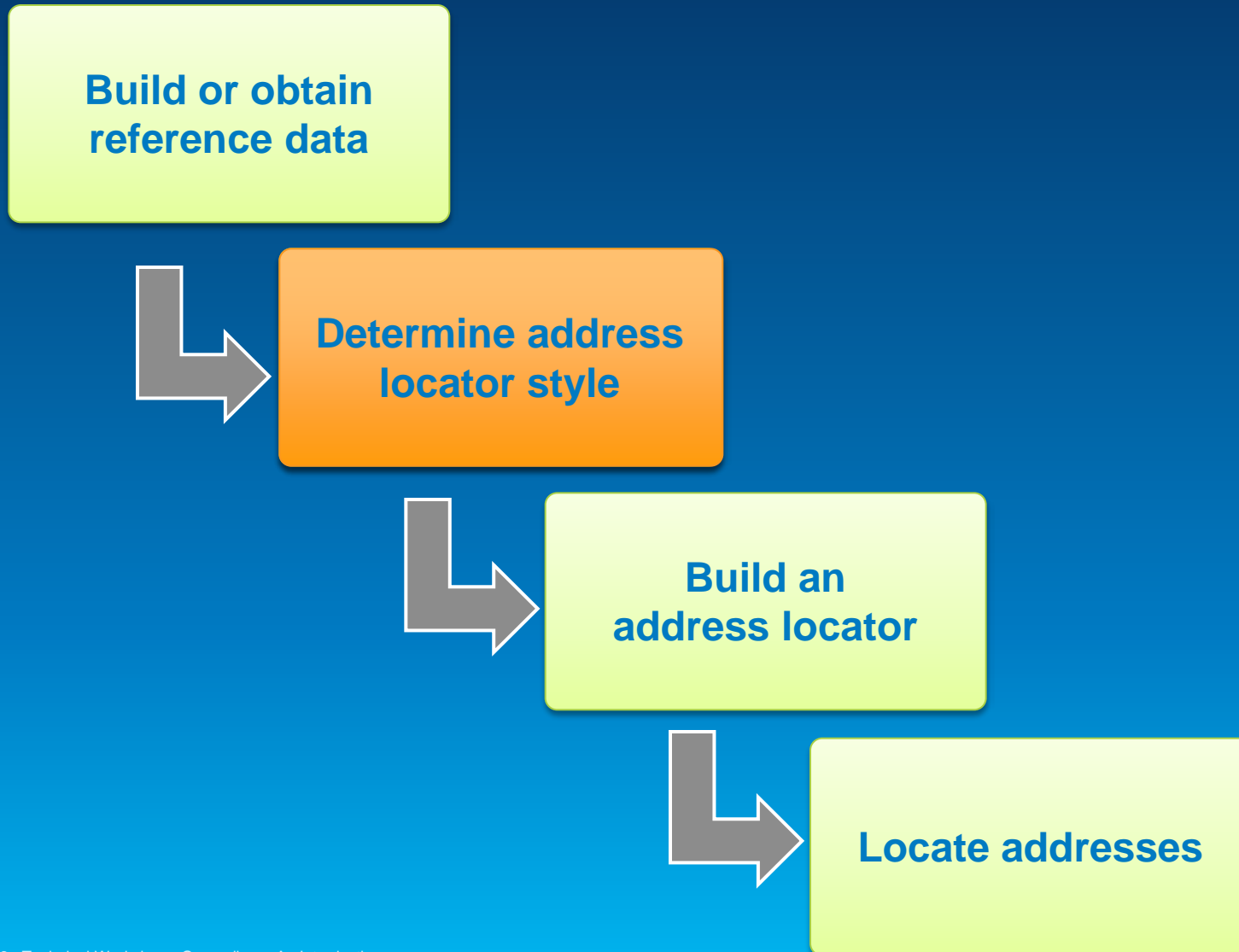


# Reference Data

- Many sources
  - StreetMap data
  - Government data
  - Data vendors
  - Data shared on ArcGIS.com

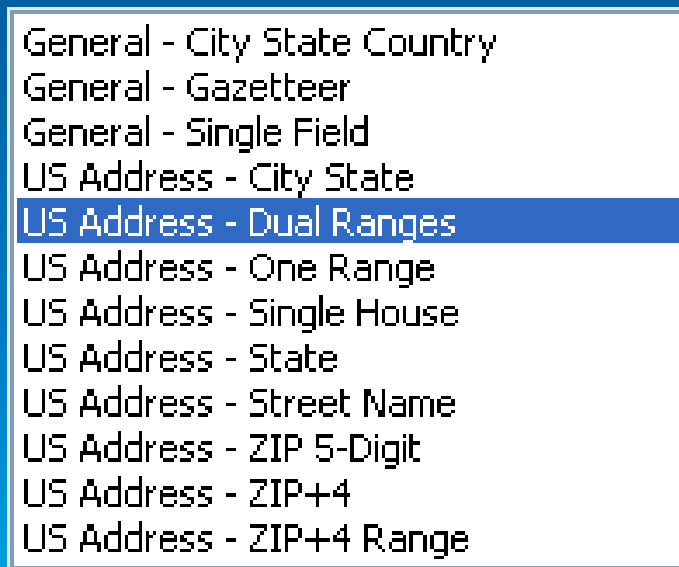


# Geocoding Work Flow



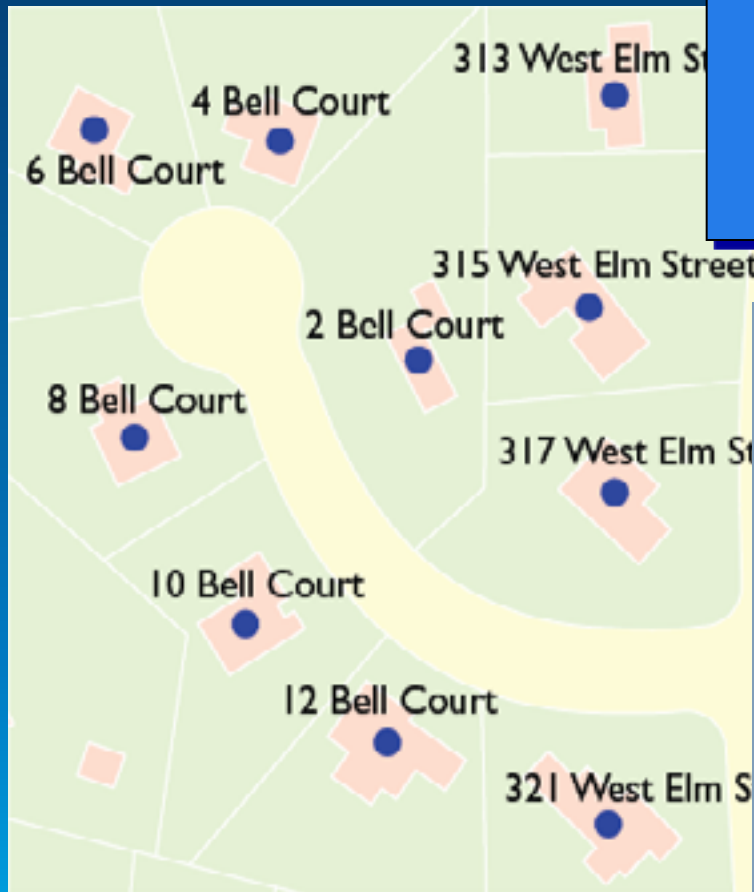
# What is an Address Locator Style

- Template containing geocoding properties
- Choose style based on properties of:
  - Address data: address information to geocode
  - Reference data: geometry and attribute values



**Locator styles can be customized to support international addresses**

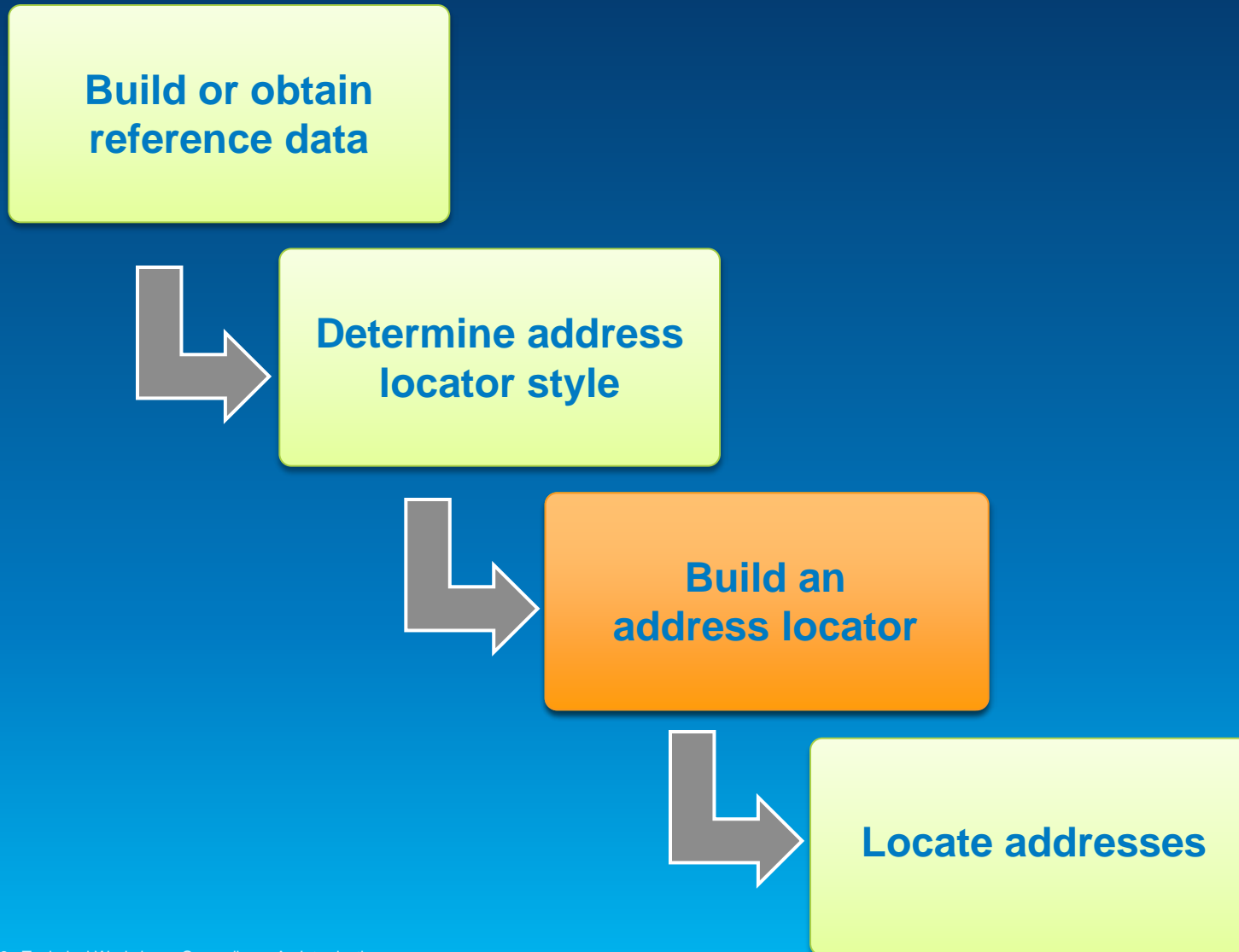
# Locator Style Example



**US Address - Single House**  
Reference Data =  
Points or Polygons

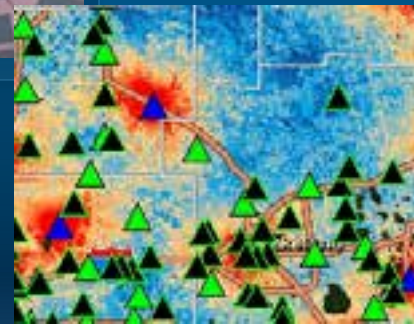
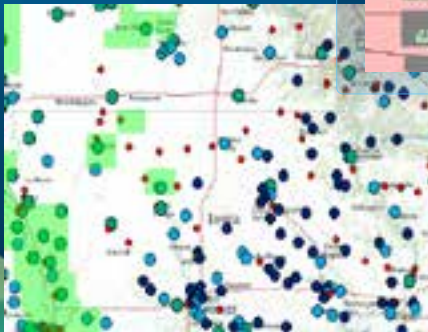
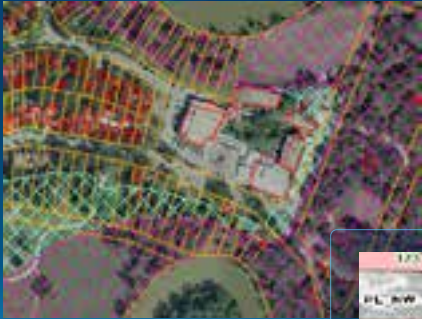
Field Name	Alias Name
Feature ID	FID
*House Number	HOUSE_NUM
Prefix Direction	PRE_DIR
Prefix Type	PRE_TYPE
*Street Name	STREET_NAM
Suffix Type	ST_TYPE
Suffix Direction	SUF_DIR
City or Place	CITY
ZIP Code	ZIP
State	STATE_ABBR
Additional Field	<None>
Altname JoinID	<None>

# Geocoding Work Flow

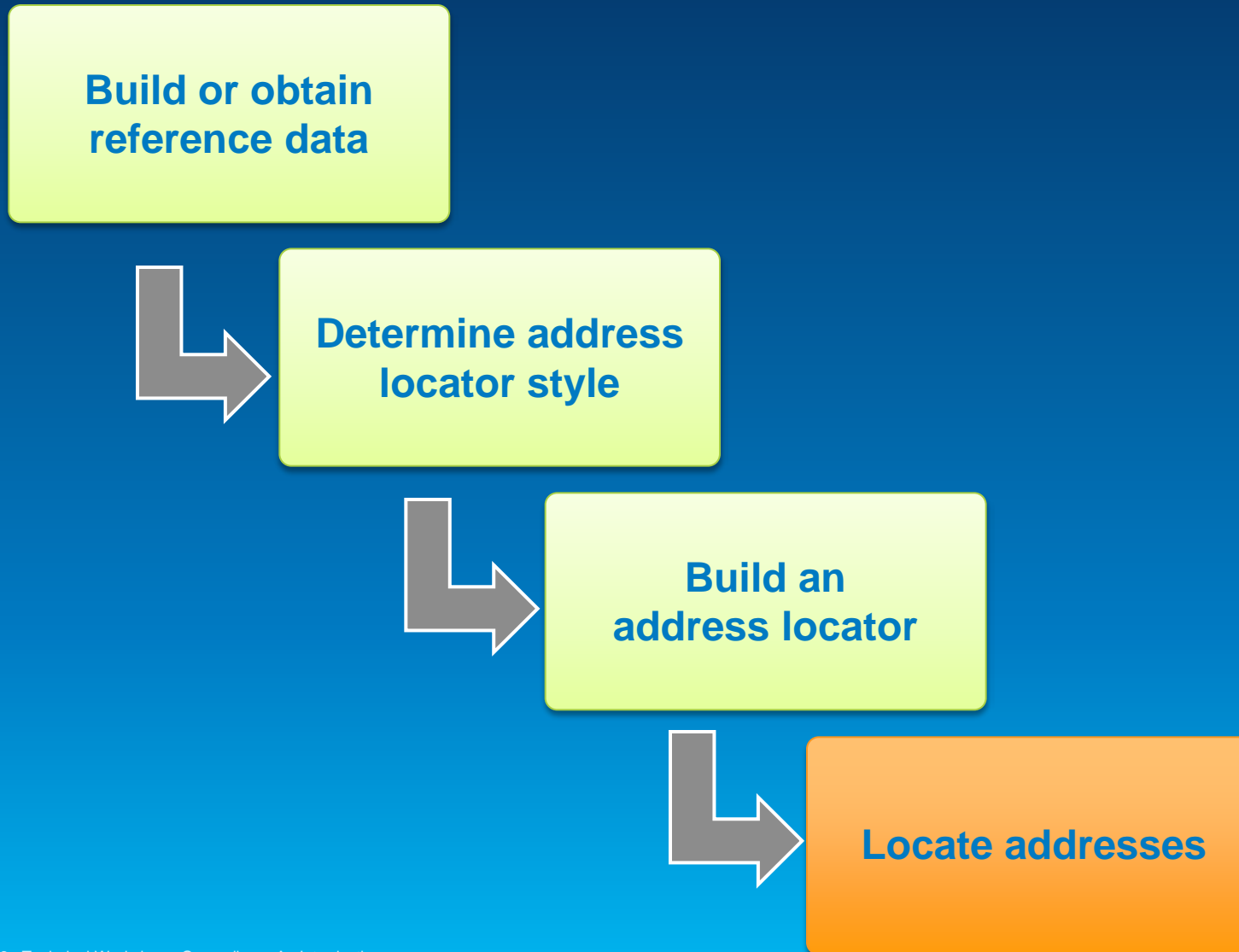


# Demo

- Create an address locator
- Geocode addresses

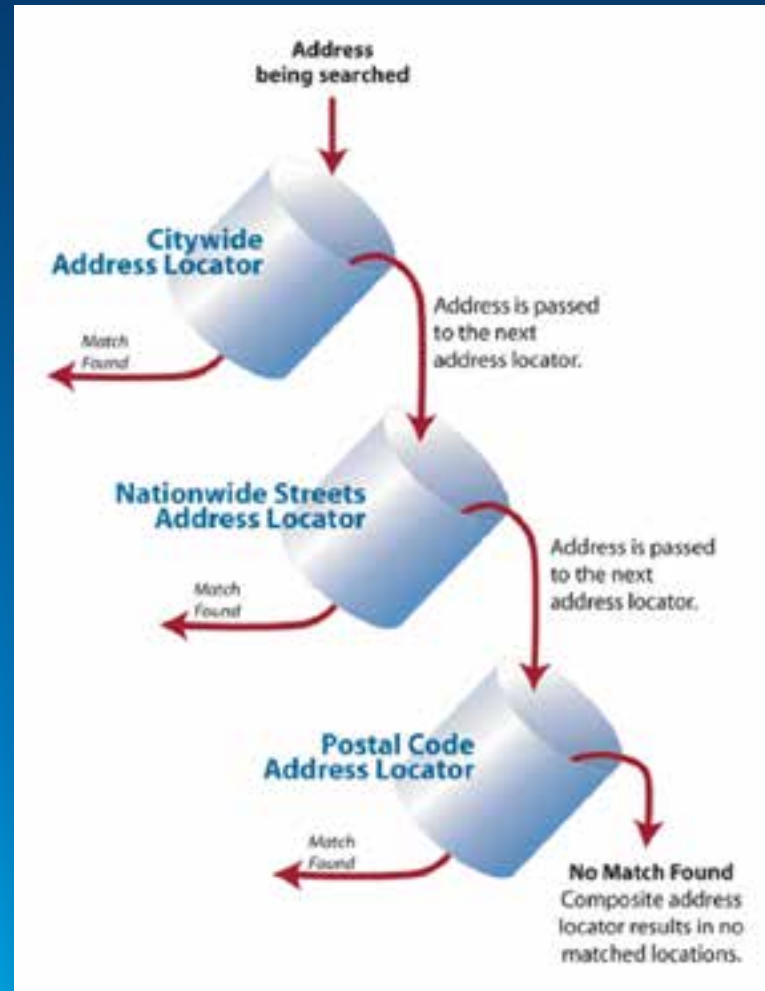


# Geocoding Work Flow



# Composite Locator

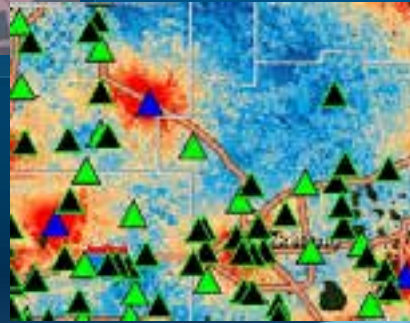
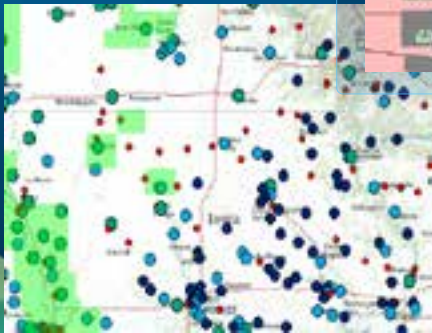
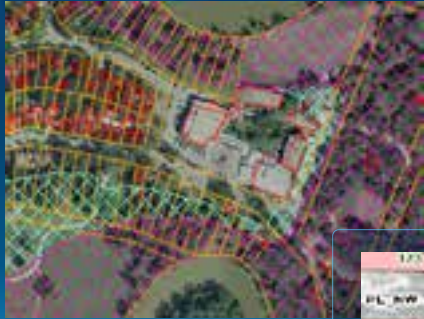
- Combines multiple locators
  - Geocode against multiple datasets
  - Cascade/Fallback geocoding
  - Spatially disjointed datasets



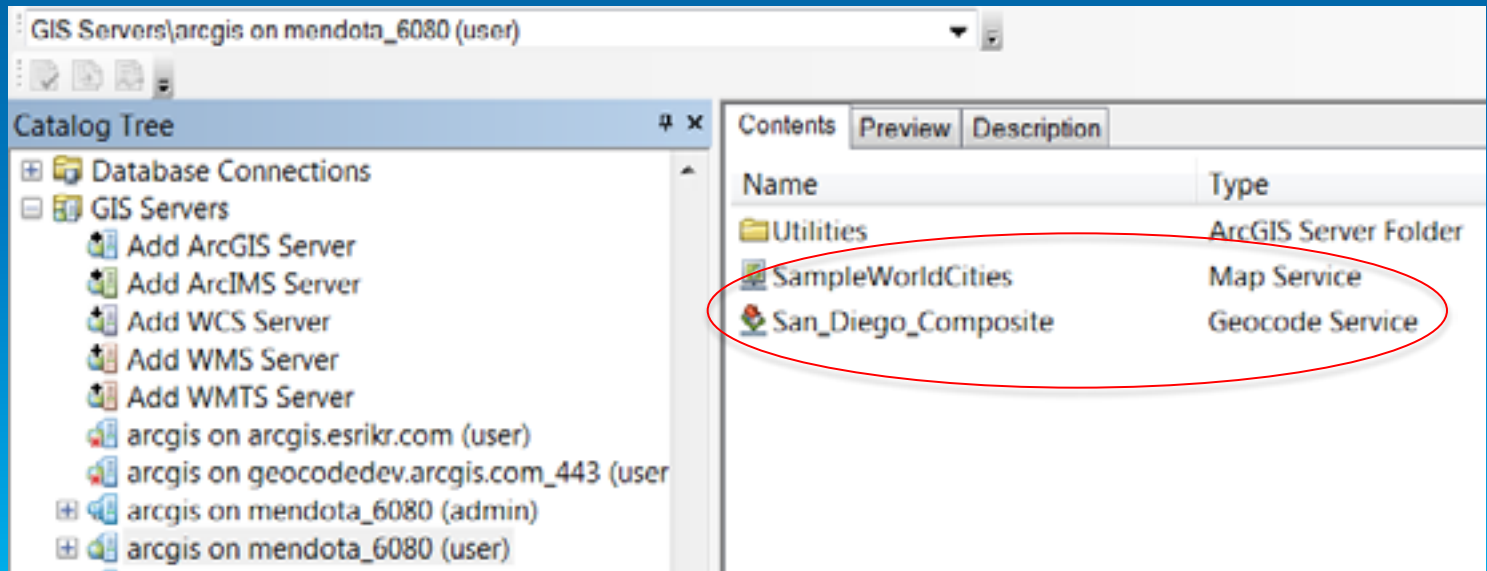
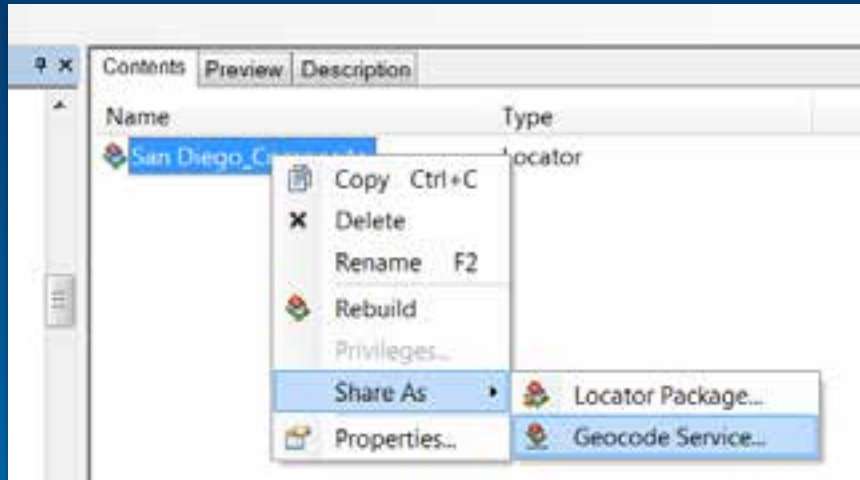


# Demo

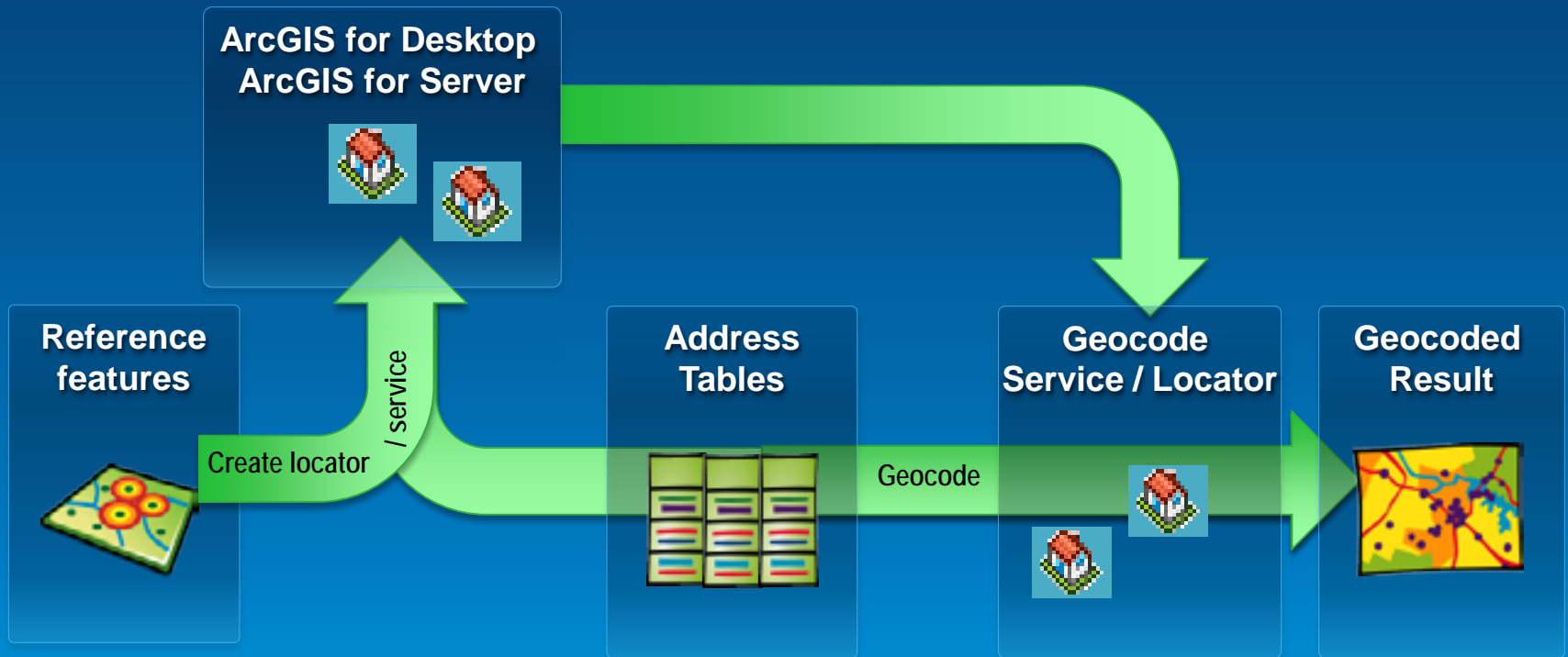
- Create a composite locator



# Publishing locator as a geocode service

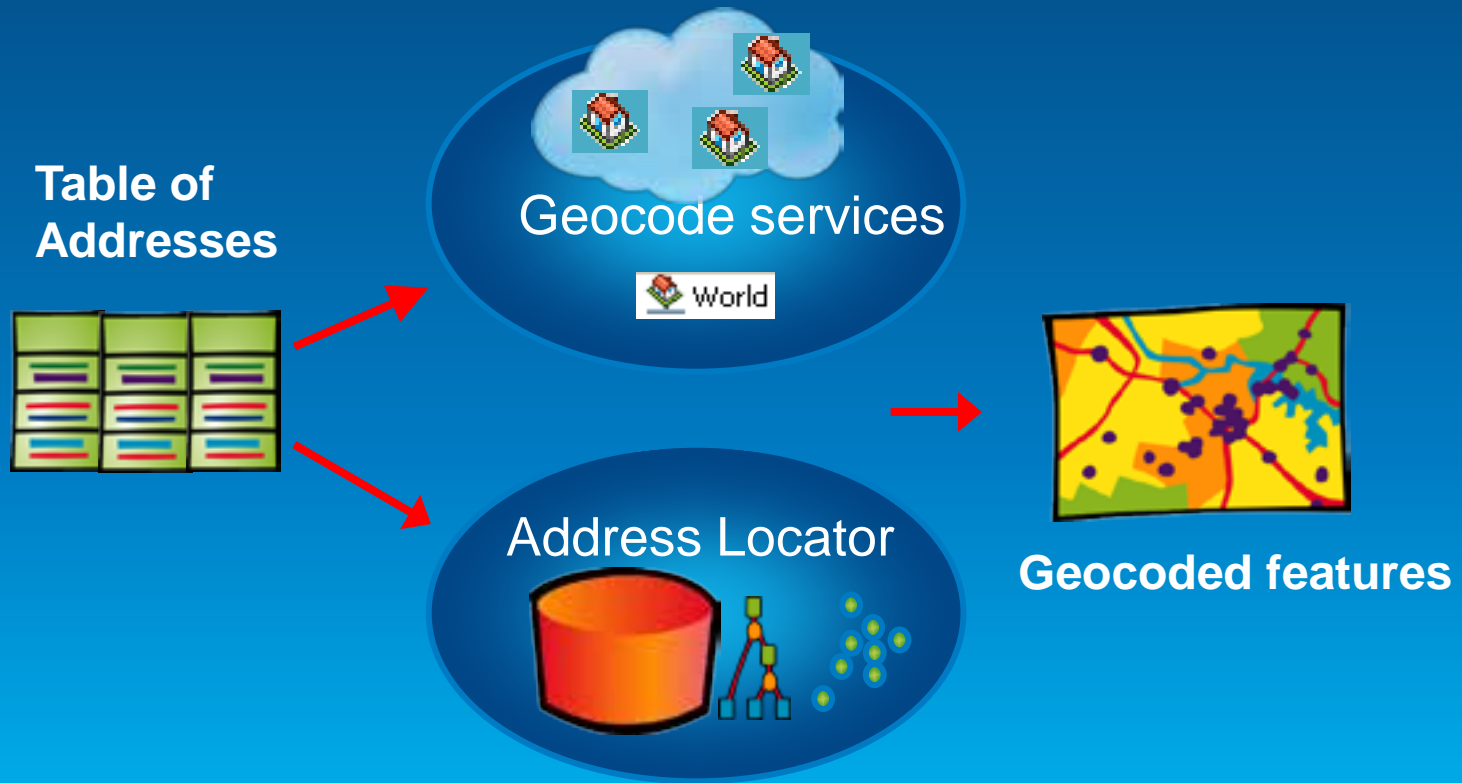


# Recap



# Summary – Geocoding with ArcGIS 10.2

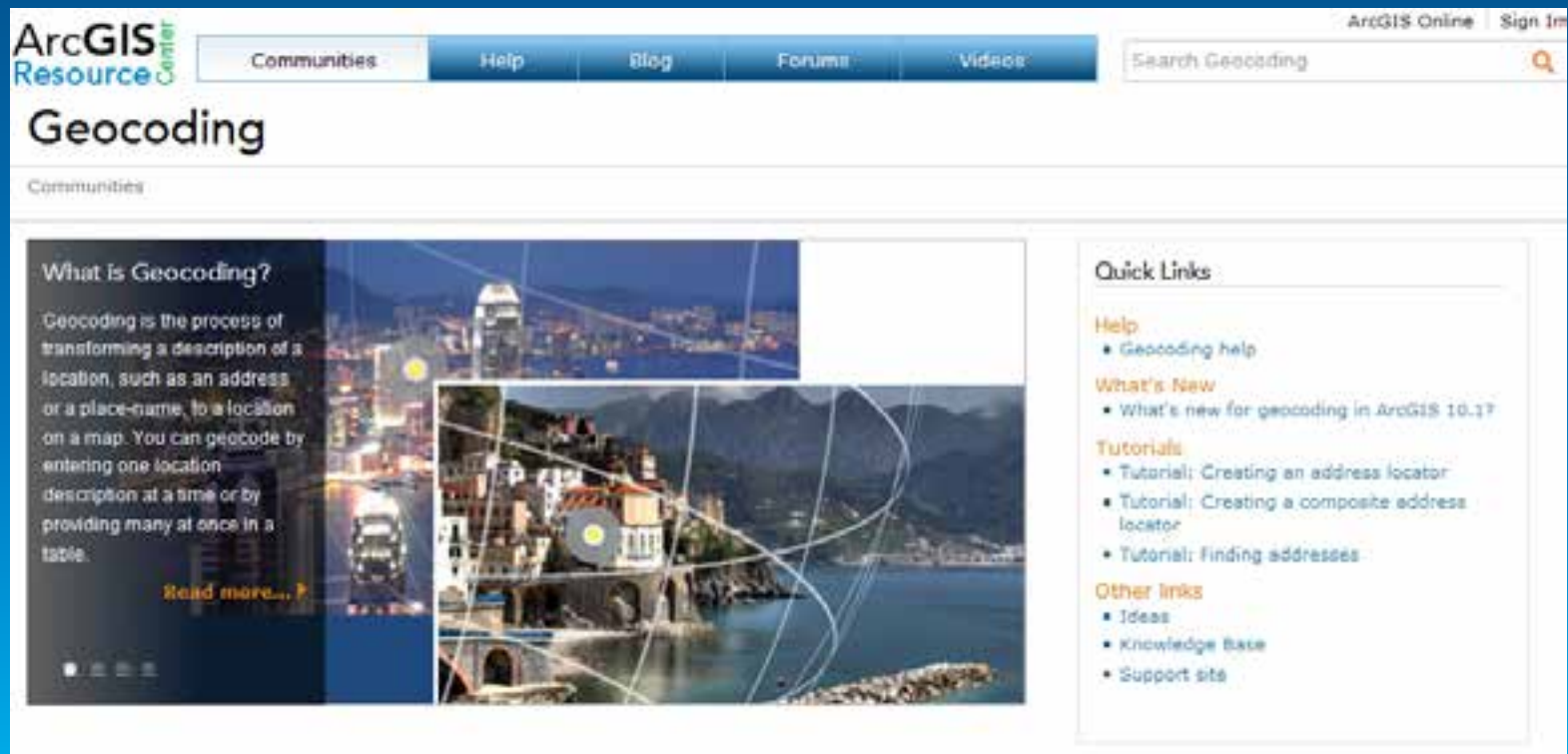
- What is geocoding?
- Geocoding work flow



# Resources and References

- Esri Resource Centers

<http://resources.arcgis.com/en/communities/geocoding>



The screenshot shows the ArcGIS Resource Center page for Geocoding. The page features a navigation bar with links for Communities, Help, Blog, Forums, and Videos. A search bar is located in the top right corner. The main content area includes a large image of a city at night with a map overlay, and a text box explaining what geocoding is. A 'Quick Links' sidebar on the right provides additional resources.

**ArcGIS Resource Center** | Communities | Help | Blog | Forums | Videos | Search Geocoding

## Geocoding

Communities

**What is Geocoding?**

Geocoding is the process of transforming a description of a location, such as an address or a place-name, to a location on a map. You can geocode by entering one location description at a time or by providing many at once in a table.

[Read more...](#)

**Quick Links**

- Help**
  - [Geocoding help](#)
- What's New**
  - [What's new for geocoding in ArcGIS 10.1?](#)
- Tutorials**
  - [Tutorial: Creating an address locator](#)
  - [Tutorial: Creating a composite address locator](#)
  - [Tutorial: Finding addresses](#)
- Other links**
  - [Ideas](#)
  - [Knowledge Base](#)
  - [Support site](#)

# Additional Geocoding Presentations

## *Esri Showcase Software Island Demo Theater*

### *Tuesday*

*Geocoding with ArcGIS.com (3:30 -4:00 PM) – Hall C, Online GIS*

### *Wednesday*

*Geocoding Services (12 PM – 1:30 PM) – Hall C, Online GIS*

*What is new in Geocoding (3:30 -4:00 PM) – Hall F, Room 1*

### *Thursday*

*What is new in Geocoding (3:30 -4:00 PM) – Hall G, Room 2*

- Visit the Spatial Analysis Island in the Exhibit Hall*

- Thank you for attending
- Have fun at UC2013
- Open for Questions
  
- Please fill out the evaluation:
  - [www.esri.com/ucsessionsurveys](http://www.esri.com/ucsessionsurveys)
    - *First Offering ID: 1176*
    - *Second Offering ID: 1293*



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