

# 2014 Esri User Conference

## Geocoding Services Solution (Census Geocoder)

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# Project Goals

- “Census-branded” geocoding services
- Flexibility on input address parameters
- Programming API
- Single address geocoding as well as batch file geocoding
- Geographic Lookup that provides attributes for layers of geography (state, county, etc.)
- Make all services free and open to the public

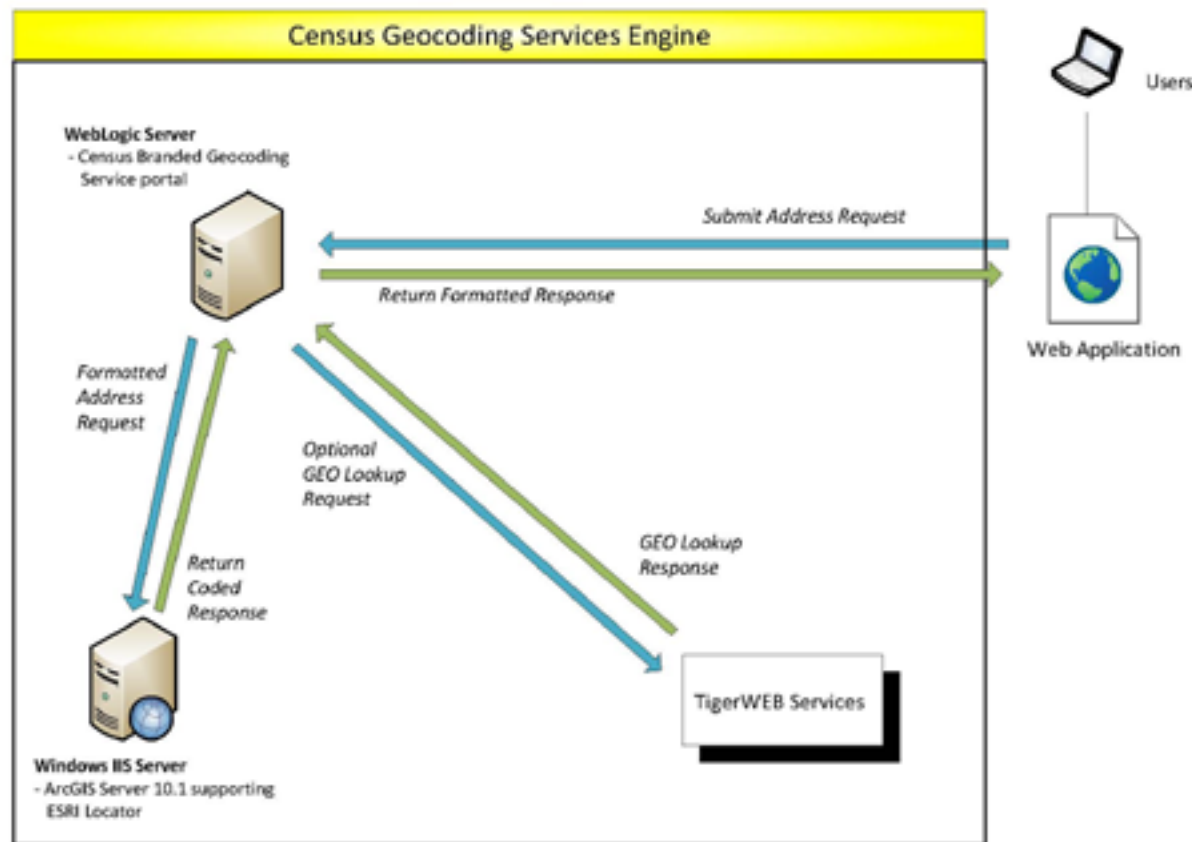
# Technical Considerations

- Utilize Census Bureau IT standards and addressing guidelines
- Use only public data – Address Ranges – in the data repositories
- Follow a Service oriented architecture
- Integrate with other Census services - TIGERweb
- Leverage commercial geocoding technologies – ESRI Locator

# Core Solutions

- Single address geocoding through a web service
  - Single line Address
  - Parsed Address (street, city, state, zip)
- Batch geocoding with CSV file input and output – limited to 1000 addresses per file
- Returns matched address in Census standardized format, calculated lat/long coordinates, TIGER/Line ID and left or right side
- Additional Geographic Lookup service allowing access to different levels of geographic codes maintained in the MAF/TIGER database and exposed in TIGERweb

## Census Geocoding Services Data Flow - Diagram



# Product Statistics

Launch Date	March 20, 2014
Average requests per day	20,000
Response time for <b>single address</b> With Geographic Lookup	<1 second <3 seconds
Response time for <b>batch of 1000</b> addresses With Geographic Lookup	<1 minute <5 minutes

# Demo

# Example Address Input formats

▼ Find Address Results

OneLineAddress :

Benchmark :

▼ Find Address Results

Street :

City :

State :

Zip :

Benchmark :



# Example Address Location Output

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Input:

Street: 380 New York St City: Redlands State: CA Zip: 92373

Benchmark: Public\_AR\_Current (4)

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Matched Address: 380 New York St, REDLANDS, CA, 92373

Coordinates: X: -117.195694 Y: 34.057537

Tiger Line Id: 145227533 Side: R

Address Components.

From Address: 250

To Address: 484

PreQualifier: New

PreDirection:

PreType:

Street Name: York

SuffixType: St

SuffixDirection:

SuffixQualifier:

City: REDLANDS

State: CA

Zip: 92373

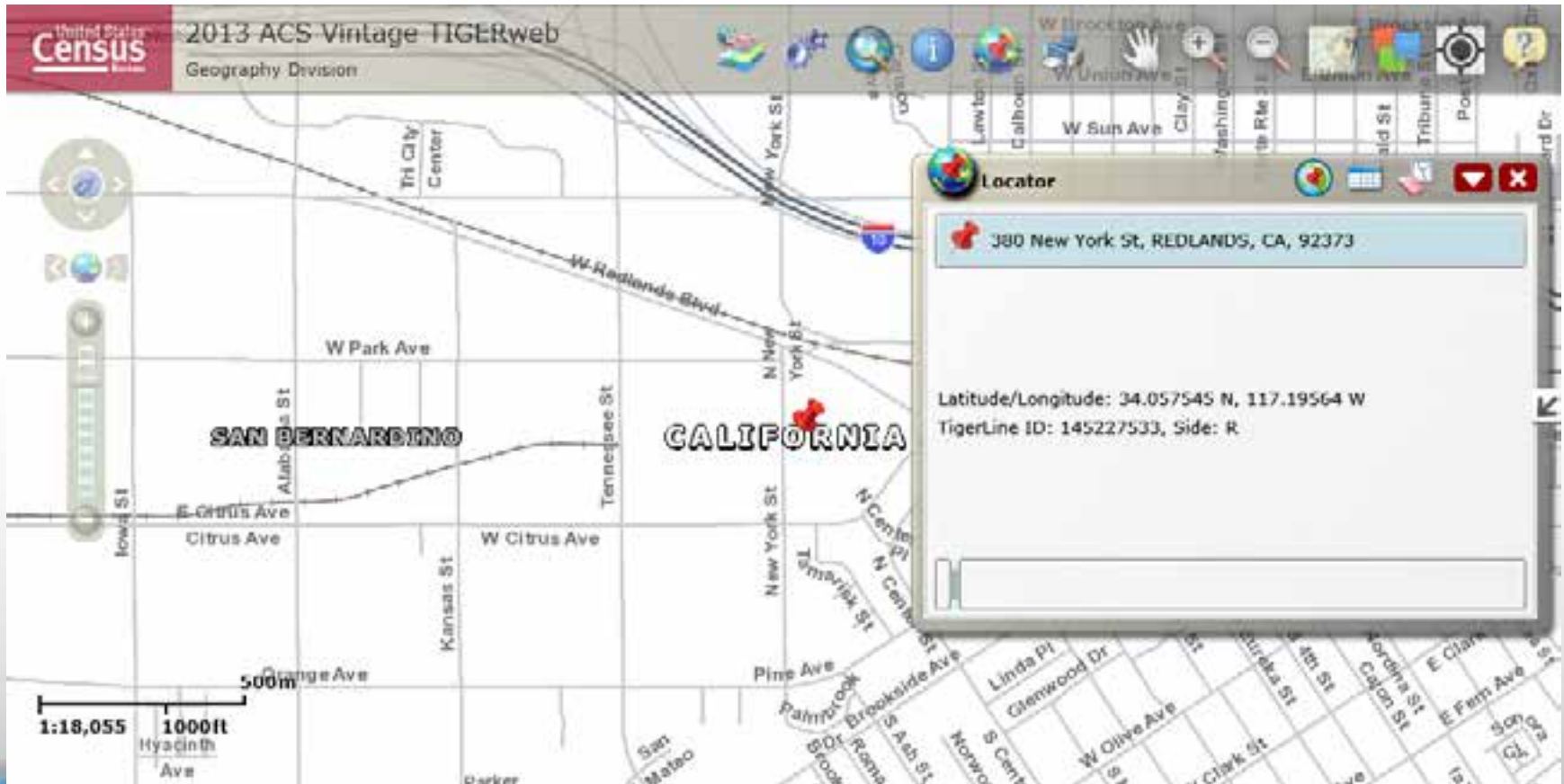
# Example Geographic Lookup

2010 Census Blocks:  
OID: 210404027393896  
ACT: C3  
STATE: 06  
LWBLKTYP: L  
BASENAME: 2005  
POP100: 8  
MTFCC: G5040  
COUNTY: 071  
CENTLAT: +34.0574493  
TRACT: 008100  
OBJECTID: 7085272  
BLKGRF: 2  
UR: U  
FUNCSTAT: S  
AREAWATER: 0  
NAME: Block.2005  
SUFFIX:  
LSADC: BK  
HU100: 3  
CENTLON: -117.1941112  
BLOCK: 2005  
INTPTLAT: +34.0574493  
GEOID: 060710081002005  
INTPTLON: -117.1941112  
AREALAND: 112345

# Example Batch Result

	A	B	C	D	E	F	G	H	I	J
1	3	1600 K Street, Suite 4C, Sacramento, CA, 95814	Match	Exact	1600 K St, -121.48563,38.576977	133324184 R			6	67
2	2	1357 Kapiolani Boulevard, Suite 1110, Honolulu, HI, 96814	Match	Exact	1357 Kapie -157.84465,21.294048	203241460 R			15	3
3	1	380 New York Street, Redlands, CA, 92373	Match	Exact	380 New Y -117.195694,34.057537	145227533 R			6	71
4	10	227 North Loop 1604 East, Suite 100, San Antonio, TX, 78232	No_Match							
5	7	1325 Morris Drive, Suite 201, Chesterbrook, PA, 19087	Match	Exact	1325 Morr -75.466415,40.068237	179498442 R			42	29
6	6	3650 Brookside Parkway, Suite 450, Alpharetta, GA, 30022	Match	Exact	3650 Broo -84.246796,34.06059	17420090 L			13	121
7	5	1641 Worthington Road, Suite 430, West Palm Beach, FL, 33409	Match	Exact	1641 Wort -80.076036,26.696032	115562958 L			12	99
8	4	3325 Springbank Lane, Suite 200, Charlotte, NC, 28226	Match	Exact	3325 Sprin -80.78235,35.099407	70553964 R			37	119
9	9	35 Village Road, Suite 301, Middleton, MA, 01949	Match	Exact	35 Village -70.97123,42.59895	86719580 R			25	9
10	8	75 Broad St., Suite 407, New York, NY, 10004	Match	Exact	75 Broad S -74.01154,40.704468	59659661 L			36	61
11	11	11200 Westheimer Road, Suite 630, Houston, TX, 77042	Match	Exact	11200 We -95.574005,29.736664	96619223 R			48	201
12	12	One International Court, Broomfield, CO, 80021	No_Match							
13										
14										
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24										

# Example TIGERweb Implementation



# Next Steps

- Expand on data offerings to enhance the geocoding results
- Enhance the web interface
- Add flexibility to the batch offering
  - File format
  - More Geographic codes

Visit us:

<http://geocoding.geo.census.gov/>

Contact us:

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Questions?

Contact: [geo.geocoding.services@census.gov](mailto:geo.geocoding.services@census.gov)