ArcGIS World Geocoding

Bruce Harold
Christa Hash
Non-technical review of Esri’s World Geocoding capabilities

Agenda

- Introduction
- Who is using Geocoding?
- Esri World Geocoding Capabilities
- Esri’s World Geocoding Products
- Deployment Patterns
- Demonstration
- What’s New
- Summary
- Questions

- ArcGIS Online: World Geocoding
- What’s New and the Road Ahead
- Pro: Introduction to Geocoding
- Configuring Locators
- StreetMap Premium
- ArcGIS Online Geocoding
- Pro: Introduction to Geocoding
- What’s New and the Road Ahead
- Batch Geocoding with ArcGIS
Interpret location descriptions as coordinates

Addresses and Names

Addresses and Names on the Map

Geocoding enables spatial interpretation of location descriptions
Geocoding

Interactive Geocoding with suggestions

Batch Geocoding with review & rematch

Reverse Geocoding including nearby intersection
Who Uses Geocoding?

Christa
“Geocoding is a foundational step to understanding your data”
Geocoding Use Cases

Contracts of many sorts are tied to location

**Insurance**
- Risk Statistics
- Risk Reduction
- Fast Service
- Healthy Growth

**Retail**
- Optimal Location
- Find Customers
- Market Products
- Customer Satisfaction

**Finance**
- Smarter Branch & ATM Network
- Market Products and Services
- Fraud Management

**Logistics**
- Optimized Routing
- Fleet Management
- Operational Efficiency
- Greater Geographic Reach
Best Reference Data

Esri Distributor

Esri Content

Community Content

Commercial Content

HERE, iPC, …

Global effort involving many parties in combination
Want to Contribute?
Community Maps Program for Addresses

- We’re looking for:
  - Points
    - Entrance
    - Rooftop
    - Centroid
  - Destinations
    - Arrival Points
  - Attribution
    - House
    - Street
    - Zone
  - Site
Geocode Coverage
See the coverage map here

- 135 Countries @ Street Level
- 250 Countries
- 400+ Language/Locality Combinations
- Global Places and Points of Interest
- All Countries in One Service
  - Users
  - Developers
Local Language and Address Formats
Customary address usage is respected

Danica lives in USA
380 New York Street
Redlands, CA 92373

Nico lives in Germany
Ringstraße 7
85402 Kranzberg

Addresses in local alphabets, languages, Romanized characters, transliteration, and local address formats
App Demo: International Addressing

Bruce
Esri’s Products

Christa
ESRI Geocoding Products

World Geocoding Online

World Geocoding On-Premises

Country Geocoding On-Premises

Build your own with ArcGIS

Products
Deployment Patterns
Bruce & Christa
Complete Set of Deployment Patterns
Locators: File Based, Service Based, Service View Based, Mobile Packages

- Web Apps
- Desktop (Pro)
- Online
- Enterprise
- Runtime SDKs

Geocoding
Desktop Geocoding
Author, Publish, Consume

- Desktop creates Locators
- Desktop creates Packages
- Desktop creates Composite Locators
- Desktop Publishes Services
Geocoding on Mobile Devices

- **Esri Apps & Runtime SDKs**
  - Forward Geocode
  - Reverse Geocode

- **Connected**
  - World Service
  - Hosted Locator Services

- **Disconnected**
  - Locator Package
Web App Geocoding
Interactive & Batch

- ArcGIS Map Viewer
- Apps built from Web App Templates
- ArcGIS Insights
- REST APIs
- Esri World Service is built-in
- Portal Services

ArcGIS Portal Viewer App
Geosearch
Batch Geocoding

Web APIs
Find candidates
Batch Geocoding
Reverse Geocode
Suggests

Consume Geocoding Services

Portal for ArcGIS
Understanding the API

SDKs implement common methods (REST, JavaScript below)

- **findAddressCandidates, addressToLocations**
  - Geocode one address
- **geocodeAddresses, addressesToLocations**
  - Geocode multiple addresses
- **reverseGeocode, locationToAddress**
  - XY to Address
- **Suggest, suggestLocations**
  - Autocomplete input

Batch methods may not be available in a particular SDK
What’s New in the World Service

Christa & Bruce
Quality Factors
Those few extra records that matter

• Expanded Matching Capability
  - Address Range Extension
  - Near Intersections, Near Locality, Near Postcode
  - Comprehensive Aliasing

• Noise Rejection & Extra Information Returned

• Category Filtering
  - Types of address

• Spatial Filtering
  - Within an extent
  - Within a country
  - Within a distance of a location

Re: 30853 Loma Linda Rd (NA), Temecula, CA, 92592
10408 S 198th West Ave, Bill Jones, Sapulpa, OK
World Geocoding Enhancements

What’s New

• Suggest supports intersections
• Suggest validates house number
• Nearby zones
• New data sources
  - AUS, AUT, EST, HKG, JPN, NLD, THA, USA (DC)
  - NZL coming
What’s New
Session: Room 17A Thursday 2:30-3:30

Best Practices

• Esri built in best practices, but some tips
  - Do use a single line input
  - Don’t ‘cleanse’ or ‘scrub’
  - Don’t mix languages

• Geocoding outputs standardized address components
  - Not generated by parsing, come from reference data matches

• Geocoding outputs rejected input
  - Anything not understood as an address part

• Geocoding handles misspellings

• Geocoding handles abbreviations

• Geocoding handles alternate names
Summary

Global Coverage  Secure, Flexible
Accurate  Best Reference Data
Local Languages and Address Formats  Find Businesses, Landmarks, and More

Available across the ArcGIS Platform with an implementation that fits your needs.
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