ArcGIS GeoEvent Processor: Integrating and exploiting streams of information in real-time

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Esri Overview
Esri in Europe

• Esri is representing a major part of the European GI industry
  - 2300+ staff
  - Around 400 Business Partners (mainly SMEs) providing dedicated solutions
  - Serving around 100,000 End User Organisations
Patterns

Supports
Multiple Implementations

Leveraging Common Computing Architecture
ArcGIS – A Comprehensive Platform
For Mapping, Analyzing, and Managing Geographic Information

Simple
Open
Configurable
ArcGIS – Accessible from Any Client

Simple
Open
Configurable
ArcGIS – Powered by Services

Simple
Open
Configurable

Web GIS

Desktop Web Device

Server Online Content and Services
ArcGIS – Organizes Content and Manages Access

Simple
Open
Configurable
ArcGIS Is a Platform
Enabling GIS Everywhere

Available in the Cloud . . .
. . . and On-Premises

Simple
Open
Configurable

Desktop
Web
Device

Portal

Web GIS

Server
Online Content and Services
Content

A Living Atlas

Ready to Use

Best Available

Global

ArcGIS
GeoEvent Processor
Real-Time GIS Data

Dynamic
Spatial movements
- Planes
- Vehicles
- Vessels
- Animals
- Storms

Discrete
Something happening somewhere
- Crime
- Accidents

Stationary
Spatially fixed
- Weather Station
- Traffic
- Air Quality
- Wind Turbine
- Smart Meter
- Water Gauges

Variable
Temporal changes
- Population
- Agriculture
- Disease
- Elections
ArcGIS GeoEvent Extension for Server

Integrates and Exploits real-time data
> Integrates real-time streaming data into ArcGIS
> Performs continuous processing and real-time analytics
> Sends updates and alerts to those who need it where they need it
General Workflow

Connect to Any Data Stream

Process and Filter Real-Time Data

Respond to Events in Real Time
Example: Lufthansa Tracker
Connect to Any Data Stream: Input Connectors

• Connectors for common data streams …
  > ArcGIS Server, File, RSS, REST etc.

• … and various formats
  > Features, CSV, JSON, TEXT, RSS etc.

• Additional connectors online
Example: Attributive And Spatial Filtering
Continuous Spatial Filtering

![Diagram of Continuous Spatial Filtering with tracks and geo-fencing areas.](image-url)
Respond to Real-Time Events: Output Connectors

- Automatically and simultaneously
  - Update the map
  - Send alerts to key personal
  - Append the database
  - Interact with other enterprise systems

- Alerts can be sent across multiple channels, such as e-mails, texts, and instant messages.
Use Case: Monitor Moving Objects
Use Case: Survey Sensor Data
Key Take Aways

1. Real-Time data is an emerging GIS discipline and enables completely new use cases.
2. You need to master a 3-step-workflow to realize your own real-time solution.
3. ArcGIS GeoEvent Processor can help you with that.
Thank you very much for your attention!

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