

Exploiting Real-Time Data with ArcGIS GeoEvent Processor for Server

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GIS data

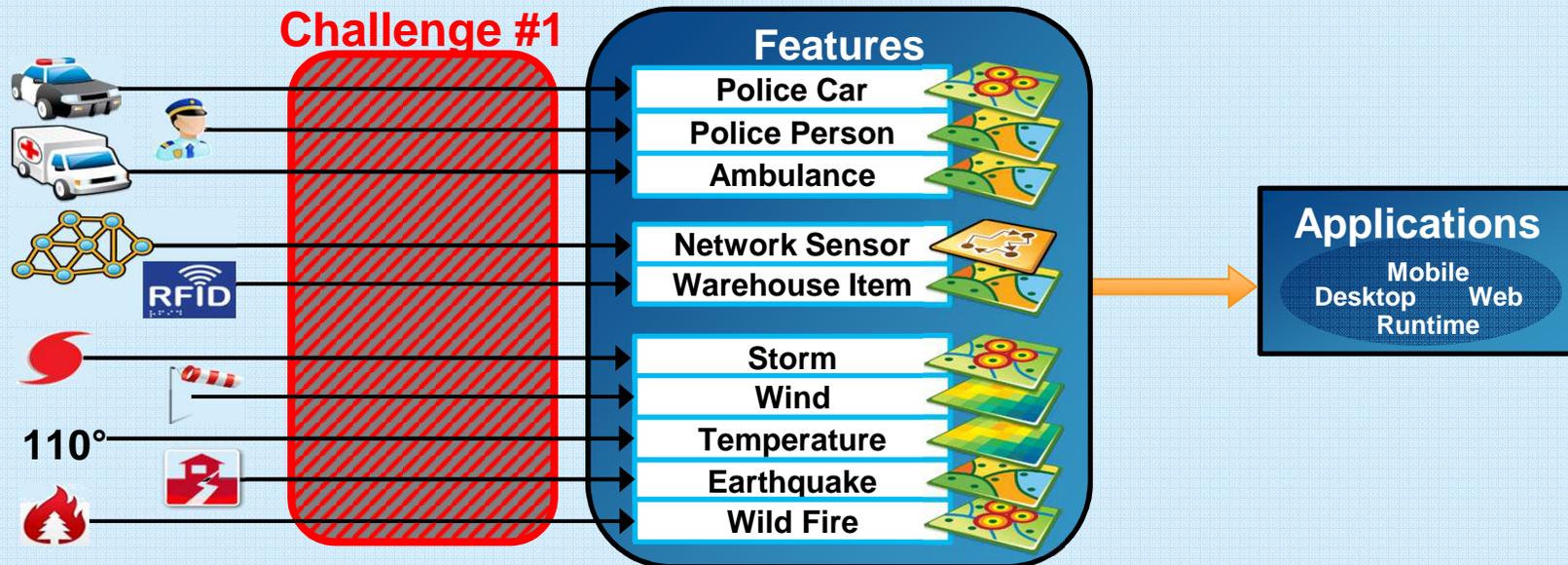
- GIS data typically represents state at a specific moment in time: “historic”, “current”, or “future”.



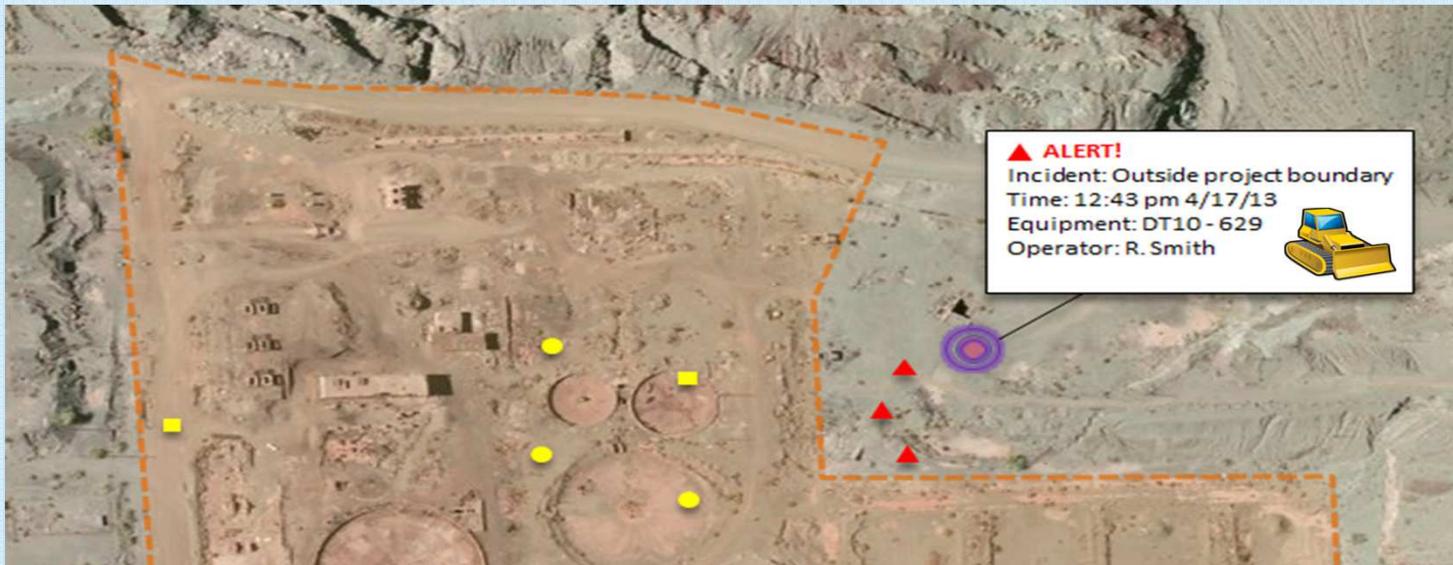
Credit: iStockphoto/chris_lemmens

Real-time GIS data

...continuous stream of events flowing from sensors representing the latest state.



Analyzing real-time GIS data



Continuous Analysis

Outside Boundary

Features

Equipment
Alert



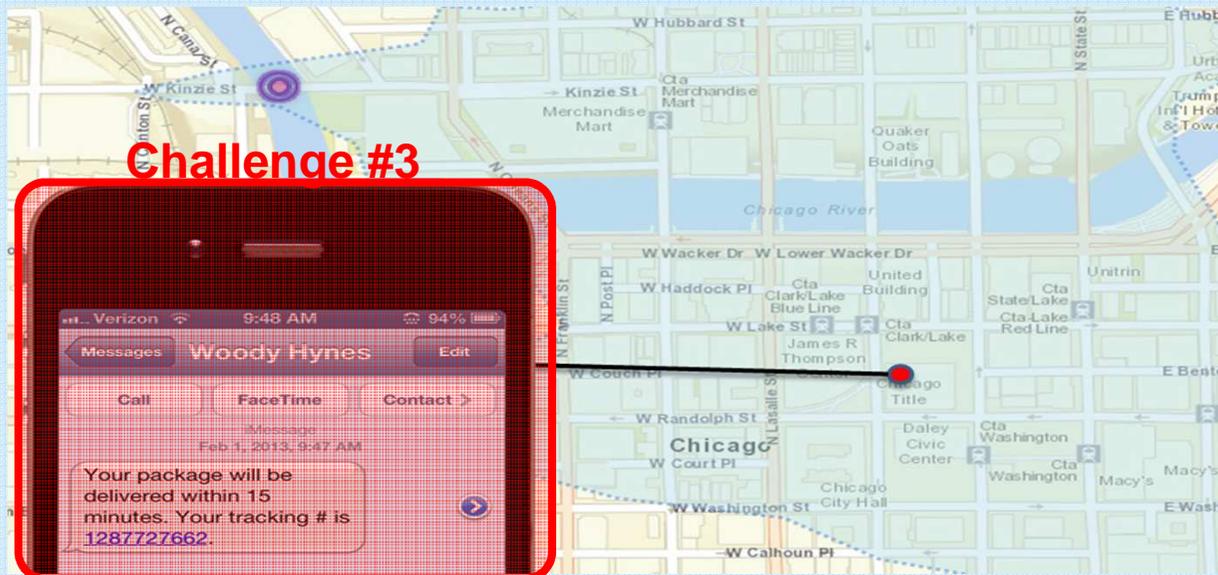
Applications

Mobile
Desktop
Web
Runtime

Challenge #2

...Are my field personnel working within the designated project area?

Analyzing real-time GIS data



Continuous Analysis
Enter Customer Area

Features

Delivery Vehicle
Notification

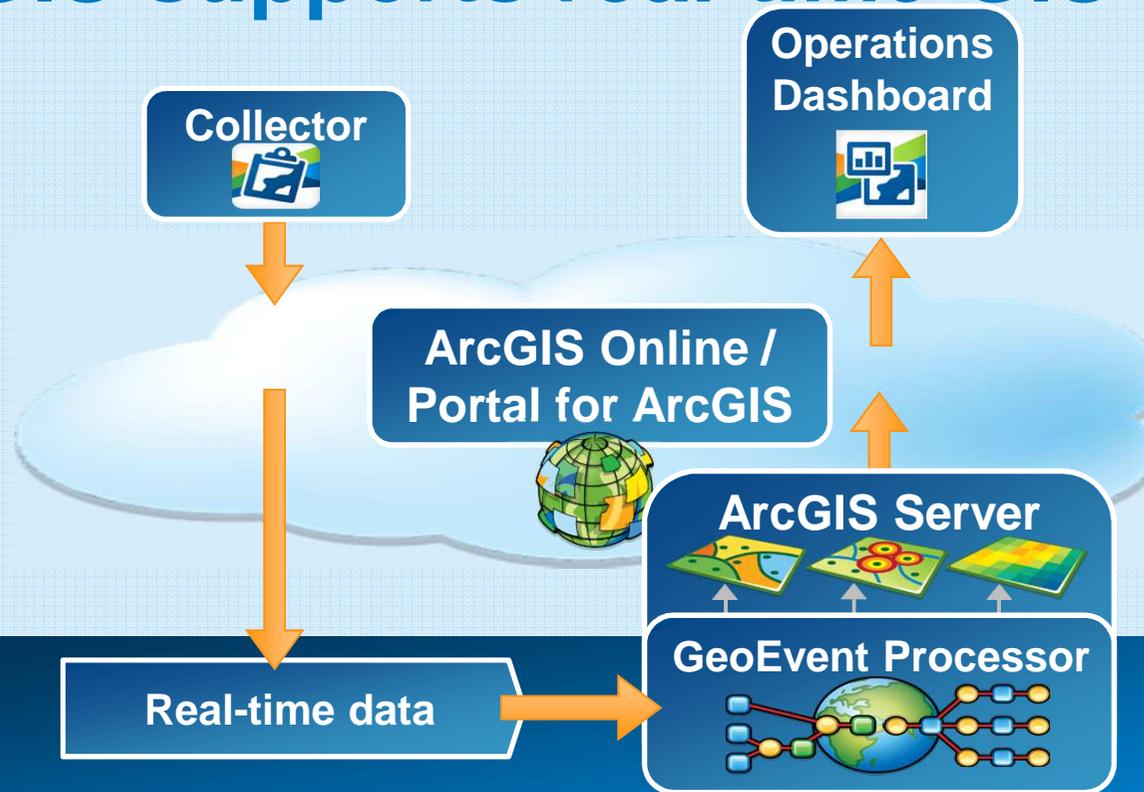


Applications

Mobile
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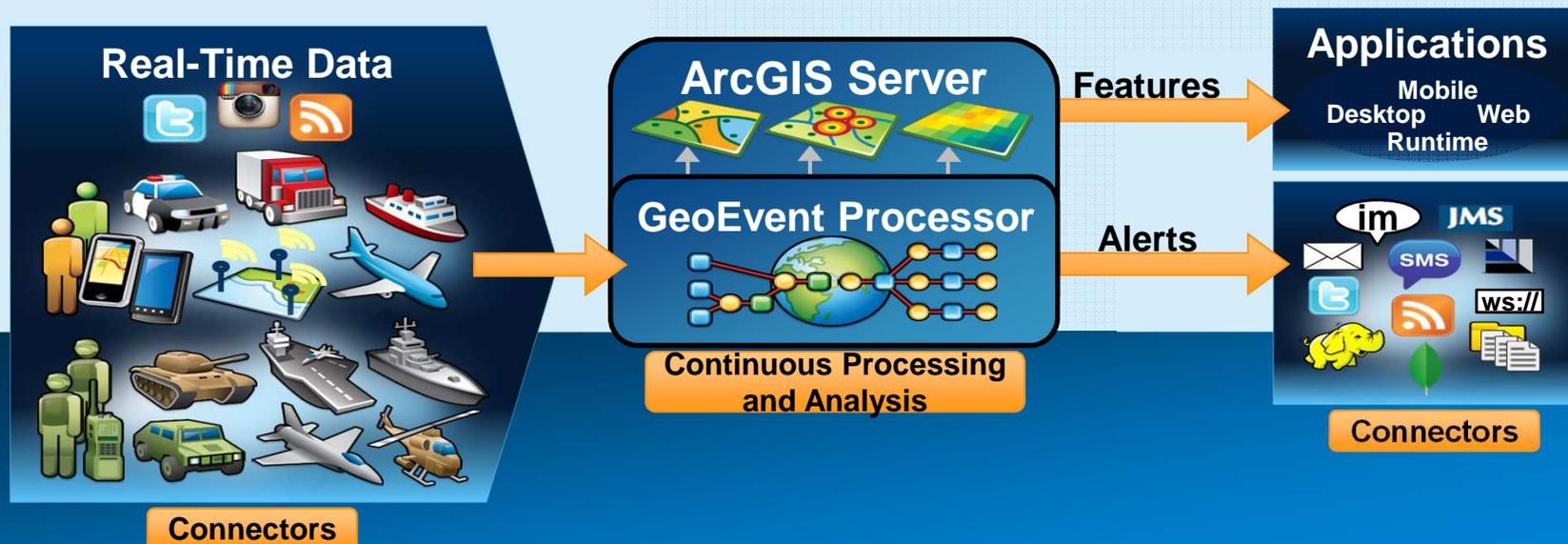
- ...Tell customer when their delivery truck is 15 minutes away.

ArcGIS supports real-time GIS



ArcGIS GeoEvent Processor for Server

- Receives real-time streaming data
- Performs continuous processing and analysis
- Sends updates and alerts to anyone on any device

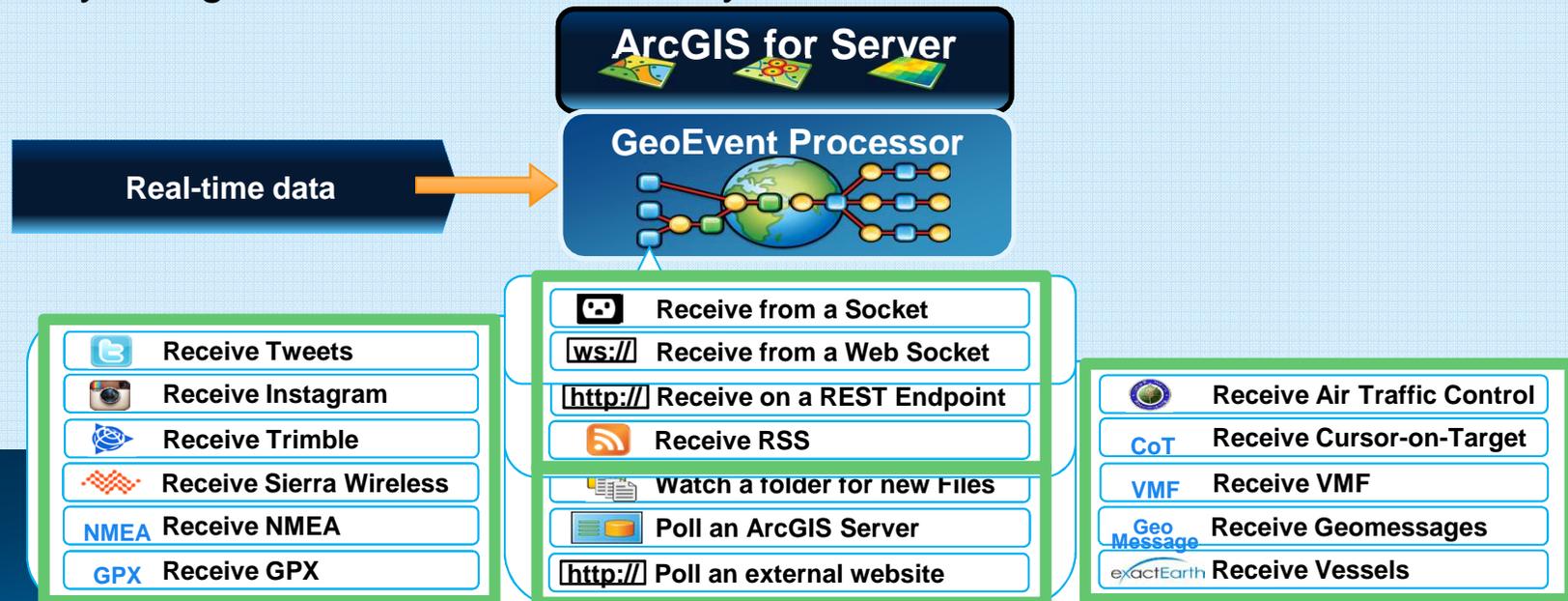


Working with real-time data

Receiving real-time data

Input connectors...

- You can easily integrate real-time data with ArcGIS by using a **connector** that meets your needs.

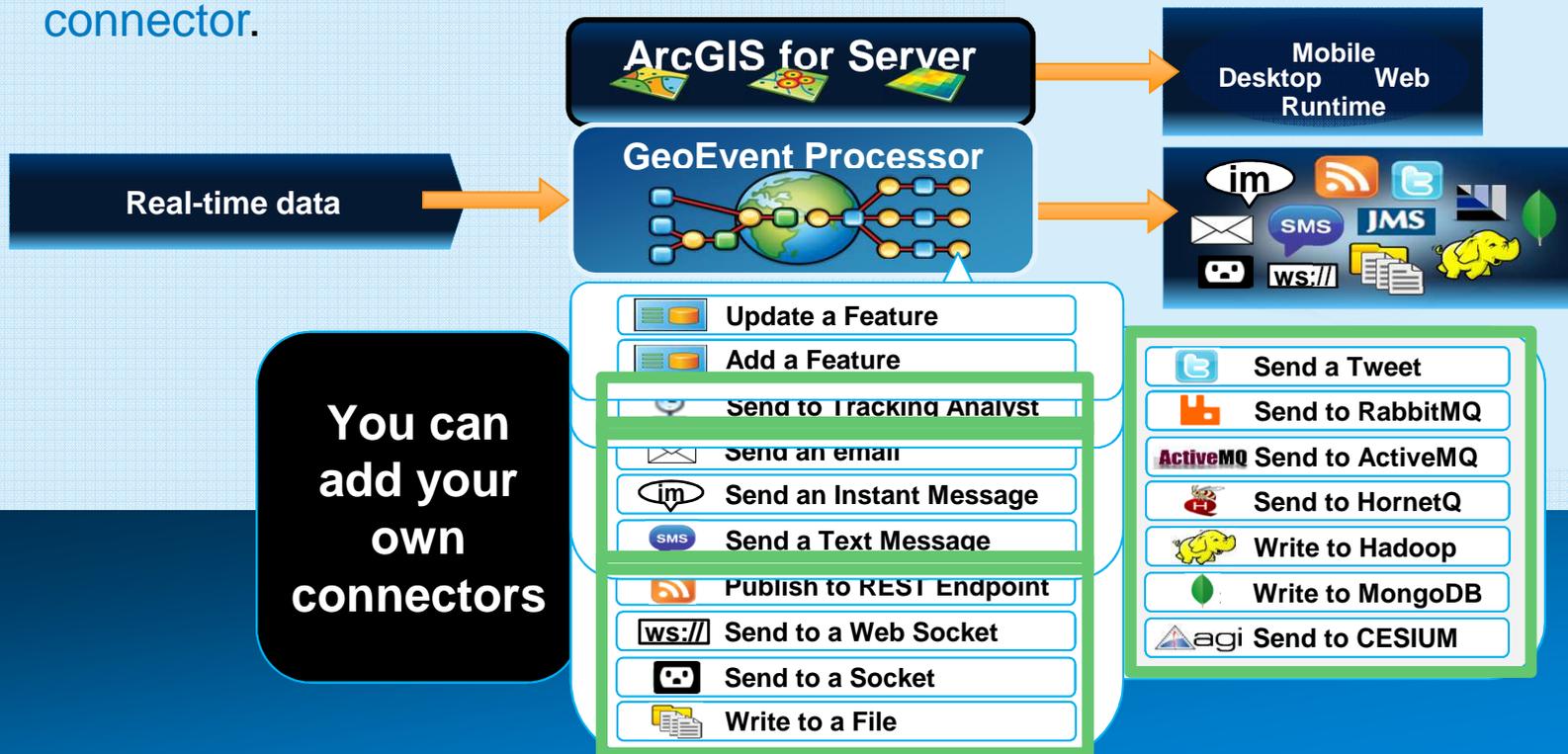


You can add your own connectors.

Sending real-time data

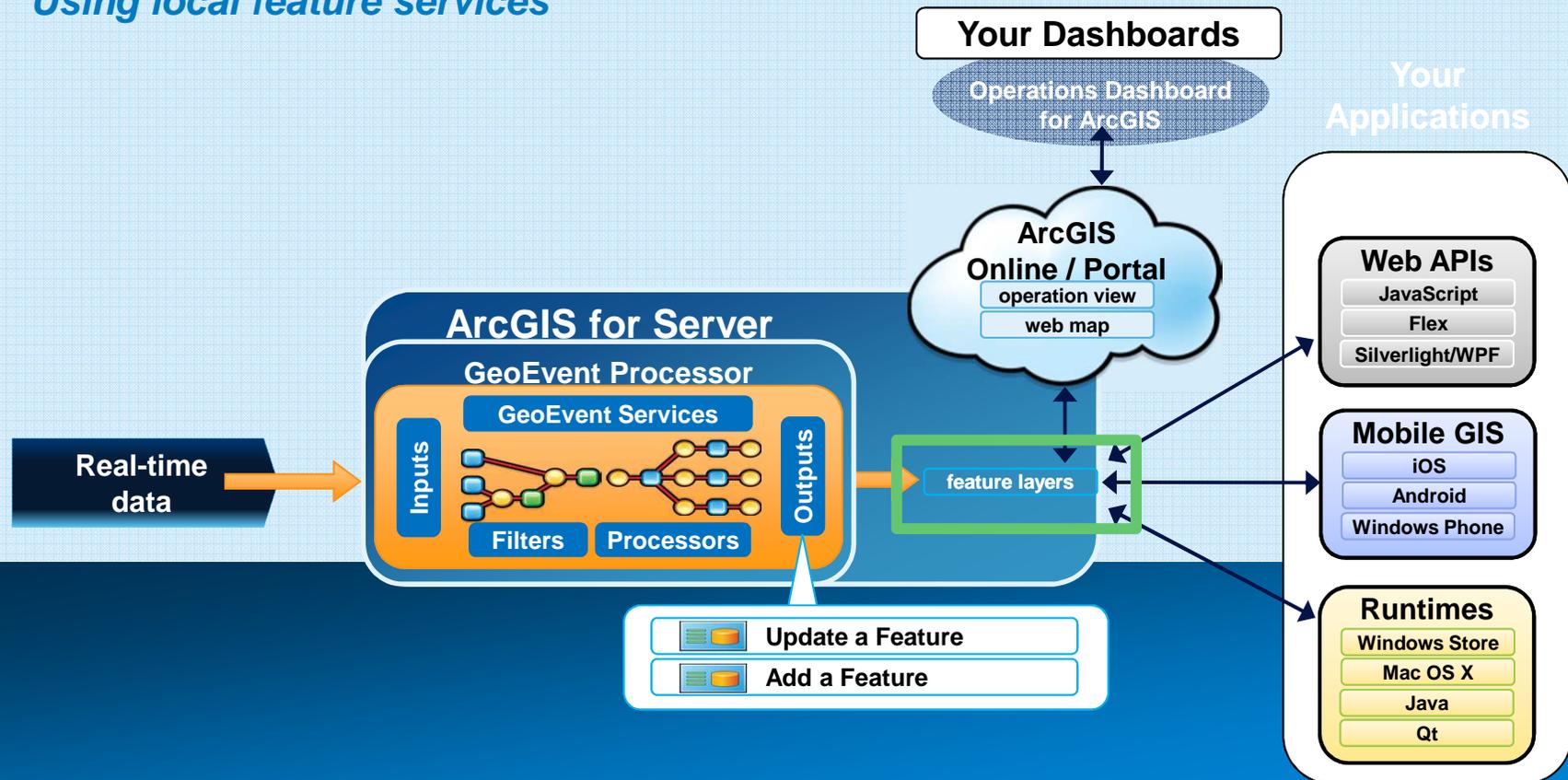
Output connectors...

- You can easily send resulting streams to anyone on any device using a connector.



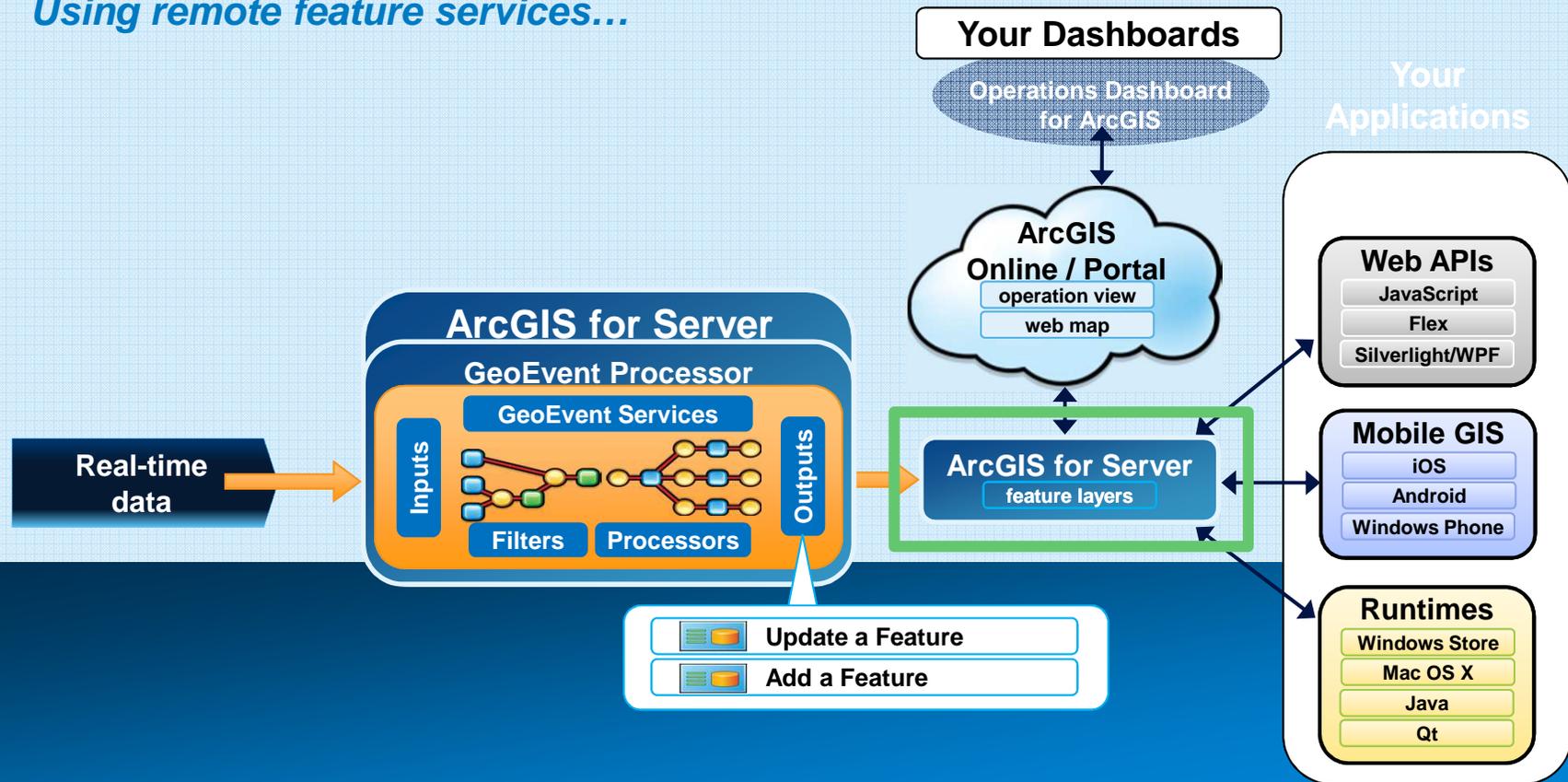
Sending real-time data to features

Using local feature services



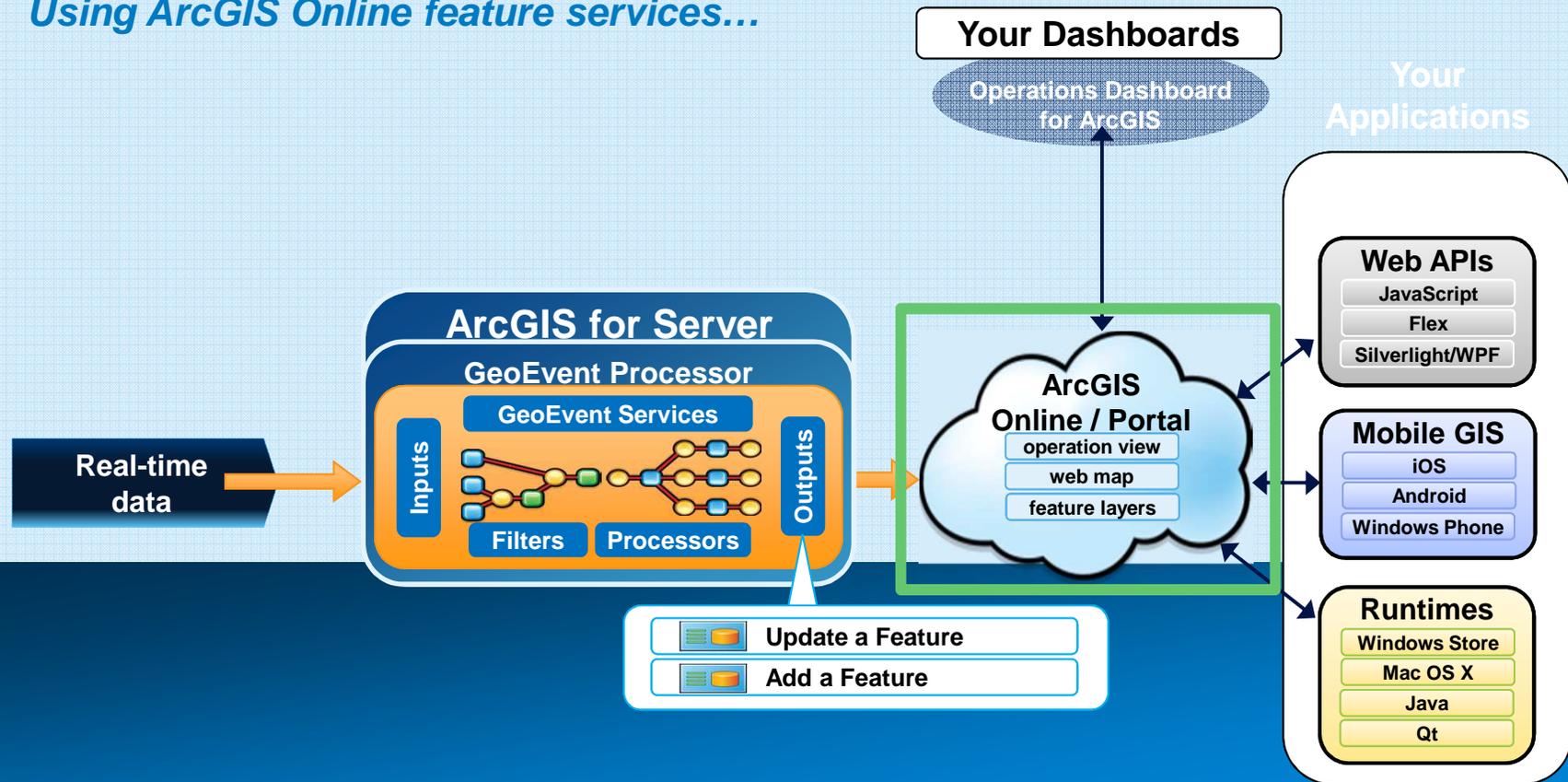
Sending real-time data to features

Using remote feature services...



Sending real-time data to features

Using ArcGIS Online feature services...



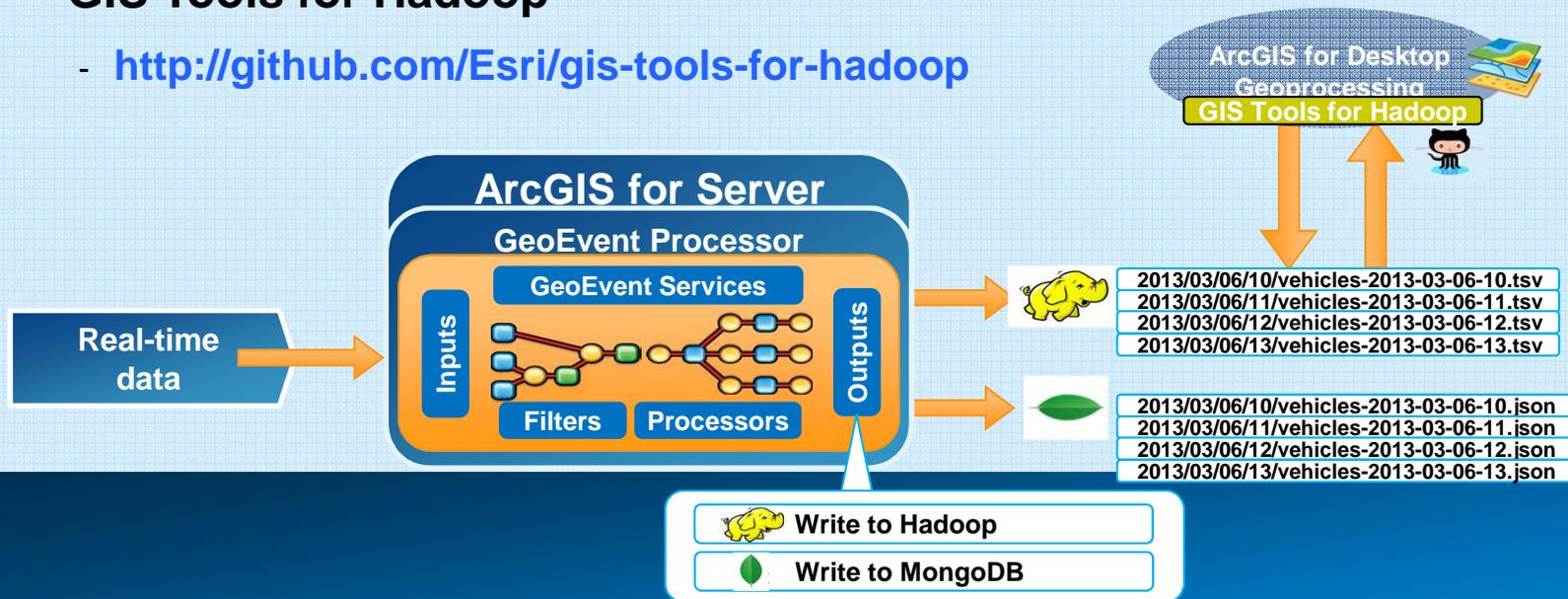
Sending real-time data to big data stores

Write to a Hadoop Distributed File System (HDFS)

Write to a MongoDB Document Store

- GIS Tools for Hadoop

- <http://github.com/Esri/gis-tools-for-hadoop>

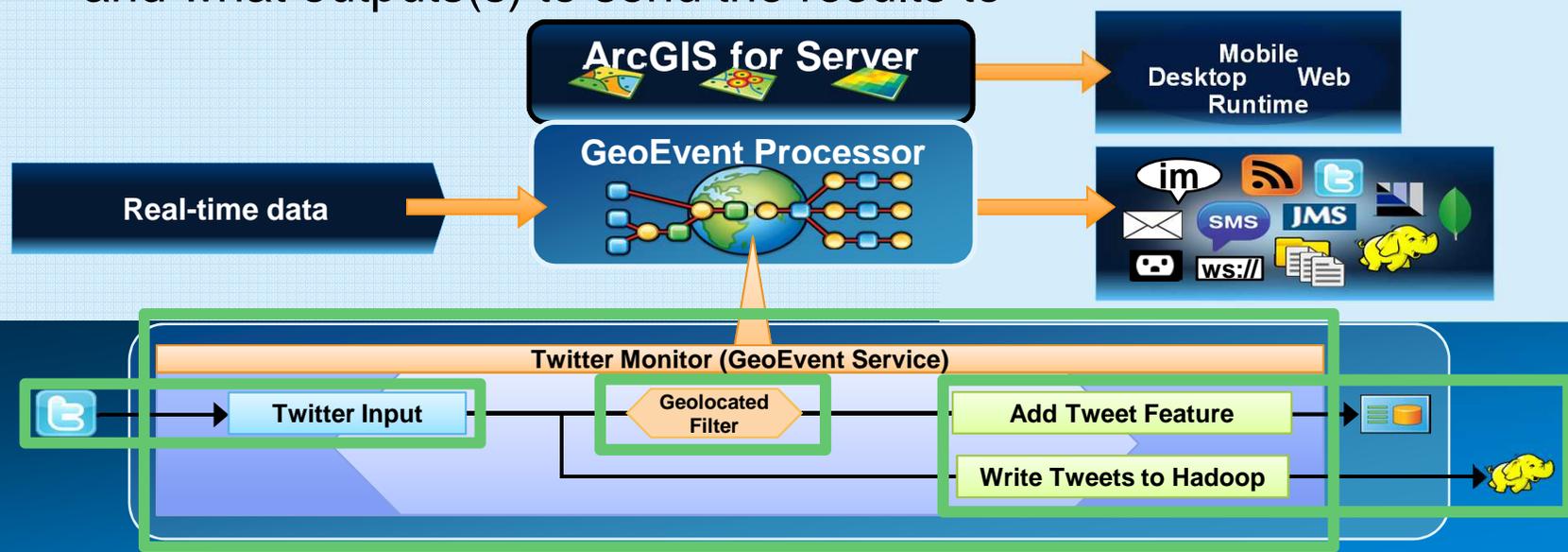


**Performing continuous
processing and analysis**

Continuous processing and analysis

GeoEvent Services...

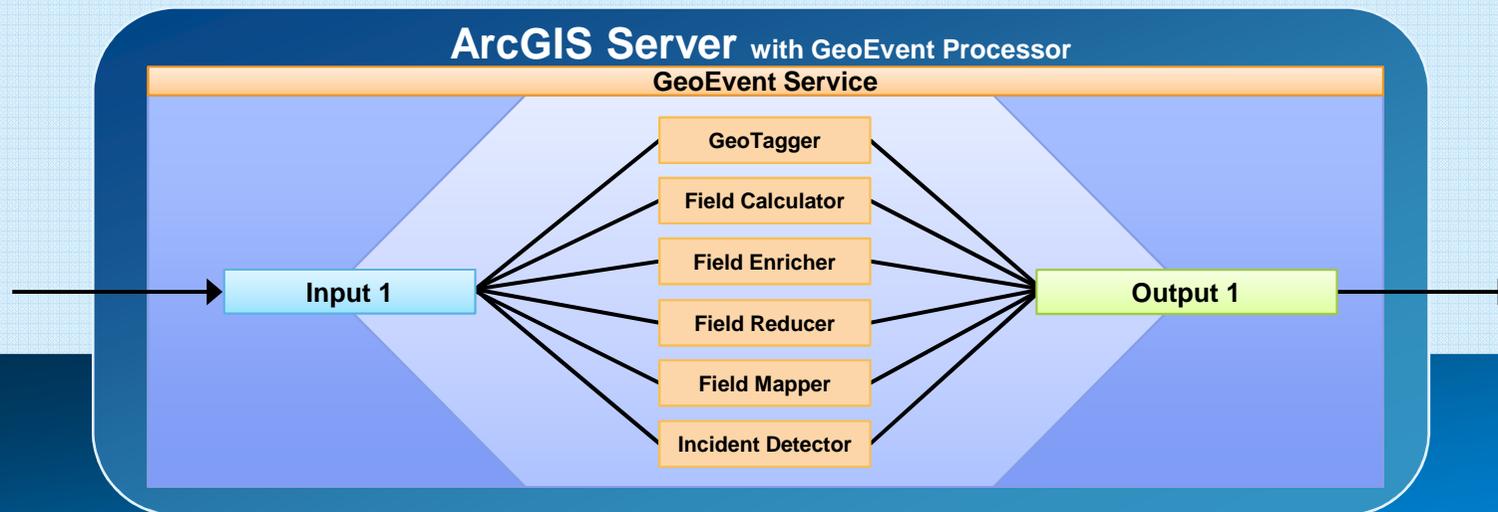
- A **GeoEvent Service** configures the flow of GeoEvents
 - the **Filtering** and **GeoEvent Processing** steps to perform
 - what input(s) to apply them to
 - and what outputs(s) to send the results to



Continuous processing and analysis

Processors...

- Calculate new fields on a geoevent: **GeoTagger**, **Field Calculator**
- Modify a geoevent: **Field Enricher**, **Field Reducer**
- Derive a new geoevent: **Field Mapper**, **Incident Detector**

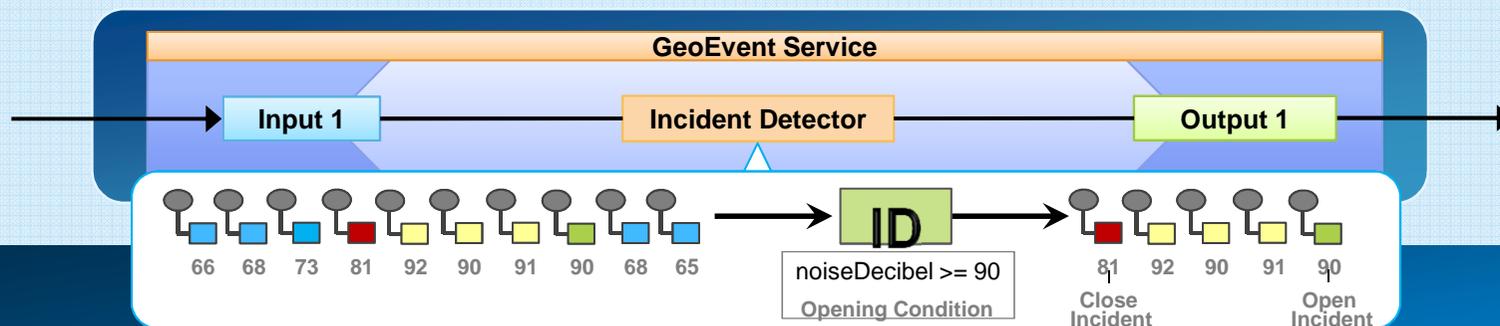


Continuous processing and analysis

Derive a new geoevent...

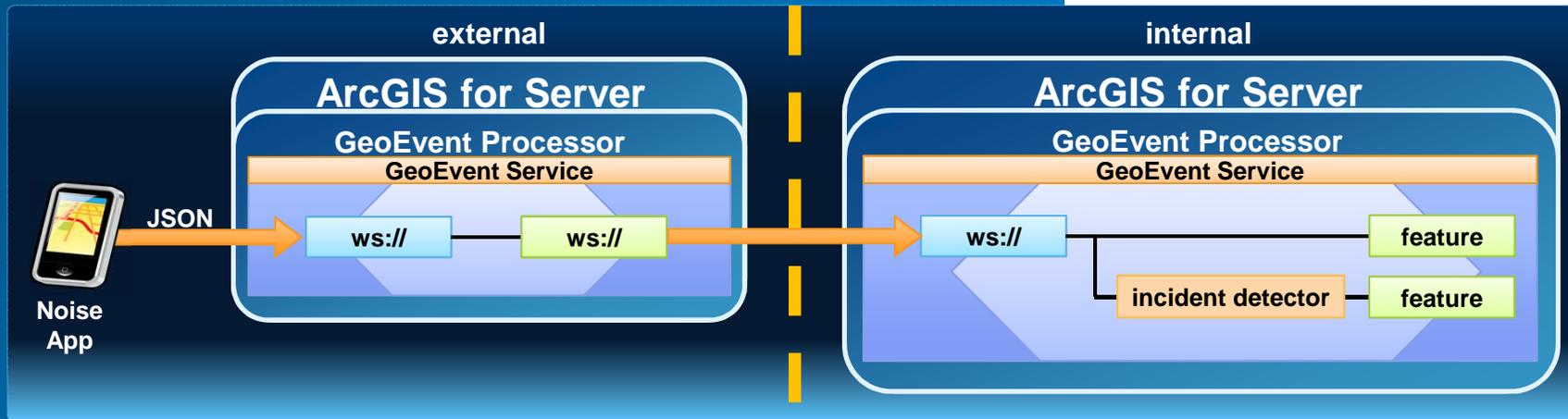
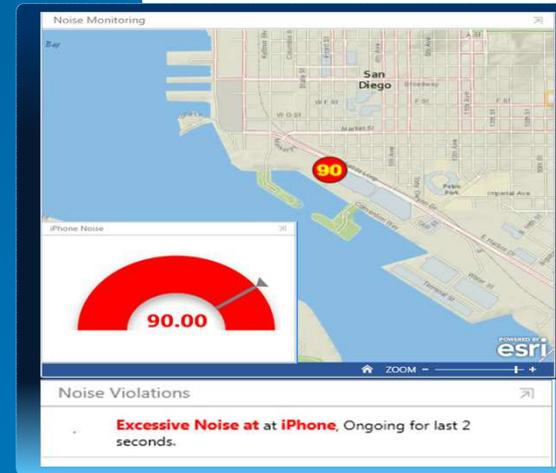
- **An Incident Detector processor**

- creates an incident upon an opening condition being met,
- maintains state for the duration of the incident,
- closes the incident based on a closing condition or expiration.



Demo

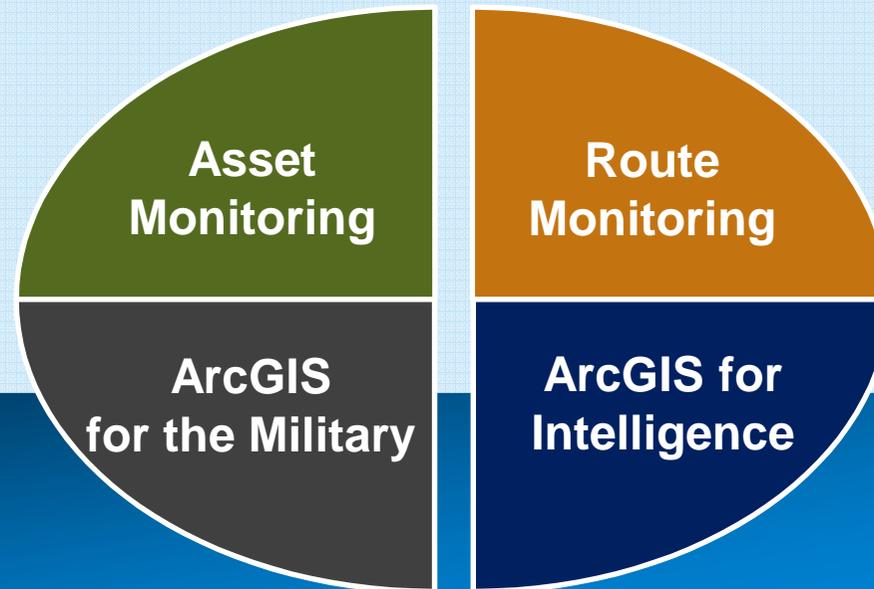
Demonstration Noise incident detection



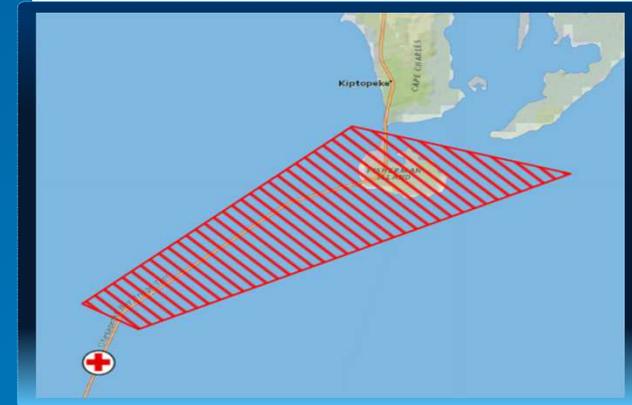
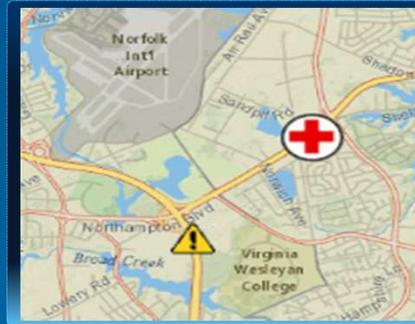
Solutions and sample applications

Applying real-time GIS

- A number of **sample applications** and **solutions** leverage GeoEvent Processor to enable real-time GIS capabilities within them including:
 - Defense and Intelligence: <http://resources.arcgis.com/en/communities/defense-and-intelligence/>
 - ArcGIS for the Military
 - ArcGIS for the National Guard
 - ArcGIS for Intelligence
 - Asset Monitor
 - Route Monitor



Demo



Demonstration

Vehicle monitoring

Alerts	
	AMB-15 is approaching Hospital, Started at Sun Mar 24 02:19:00 PDT 2013
	AMB-15 is inside a Dangerous area, Ended at Sun Mar 24 01:56:00 PDT 2013 and lasted for 13 minutes.
	AMB-15 is speeding, Ended at Sun Mar 24 01:25:00 PDT 2013 and lasted for 8 minutes.



Real-time GIS with GeoEvent Processor

Summary

- **ArcGIS is a dynamic platform that enables real-time visualization, continuous analysis, and understanding of our world.**
- **GeoEvent Processor allows you to:**
 - be alerted when interesting events occur
 - react and make smarter decisions faster
 - to know what is happening, as it happens
- **Product Page**
 - <http://pro.arcgis.com/share/geoevent-processor>



No.
Date



questions
& answers



