

# Esri Southwest User Conference

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# ArcGIS GeoEvent Processor for Server

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# ArcGIS GeoEvent Processor for Server

## Agenda

- Real-time GIS Overview
- Working with real-time data
- Performing continuous processing and analysis

# GIS data

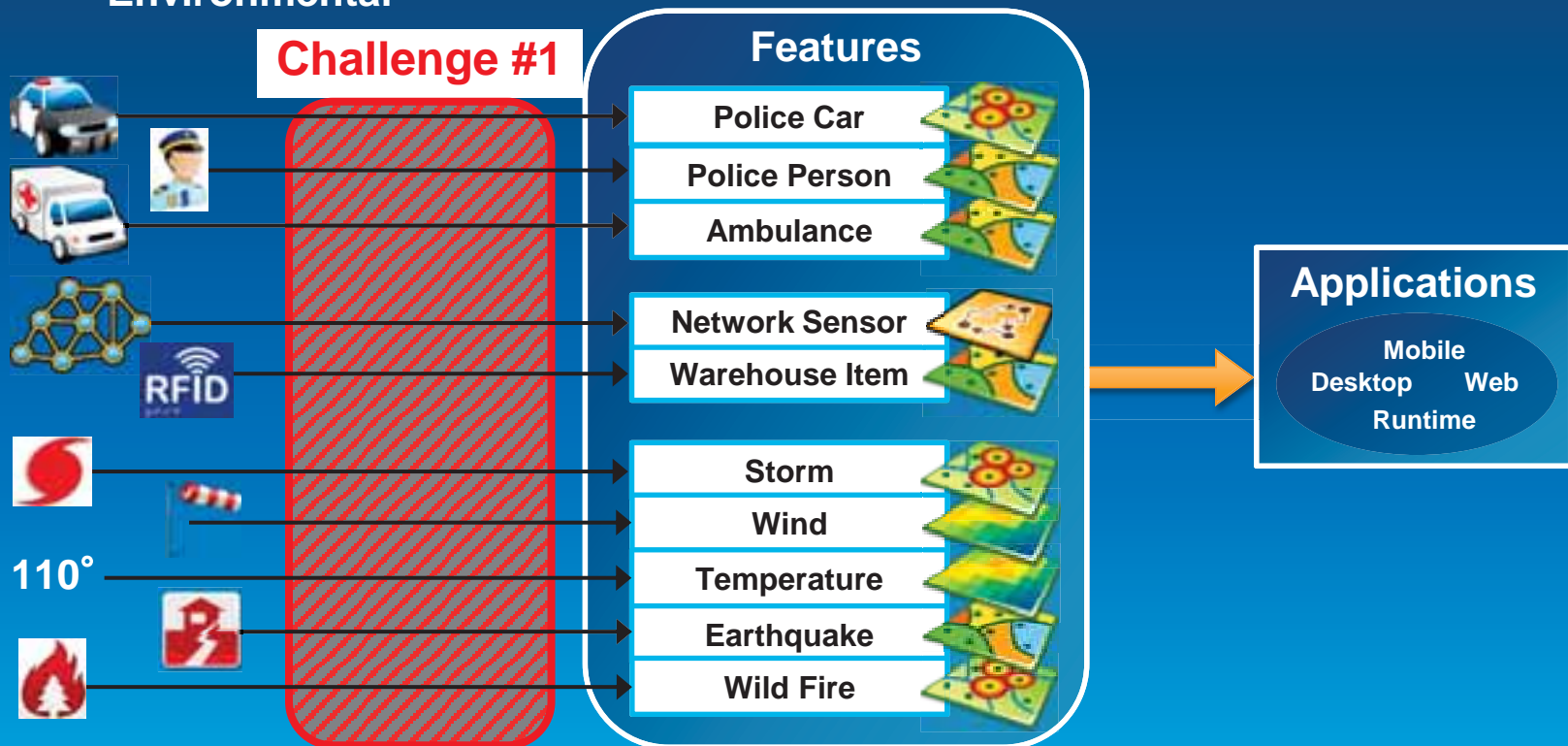
- GIS data typically represents state at a specific moment in time: “historic”, “current”, or “future”.



Credit: iStockphoto/chris\_lemmens

# Real-time GIS data

- Real-time GIS data is a continuous stream of events flowing from sensors where each event represents the latest state of the sensor.
  - Emergency Response
  - Utility Networks and Warehouses
  - Environmental

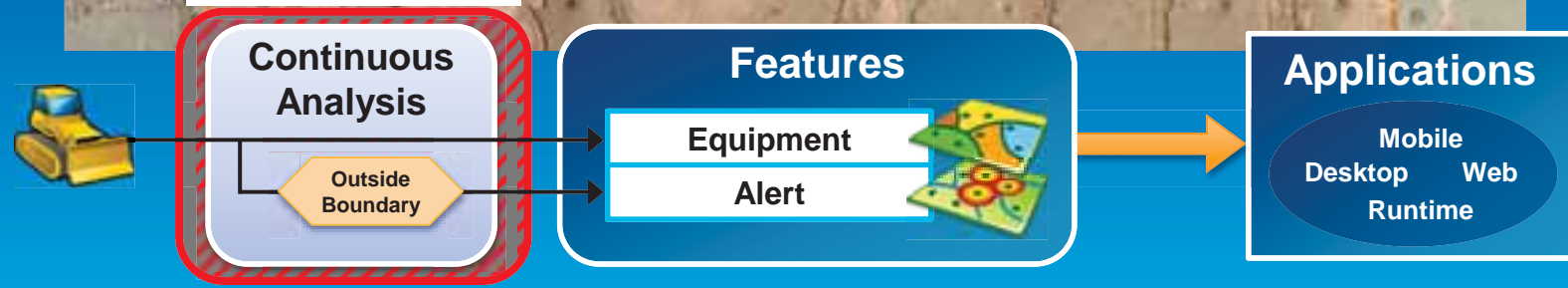


# Analyzing real-time GIS data

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

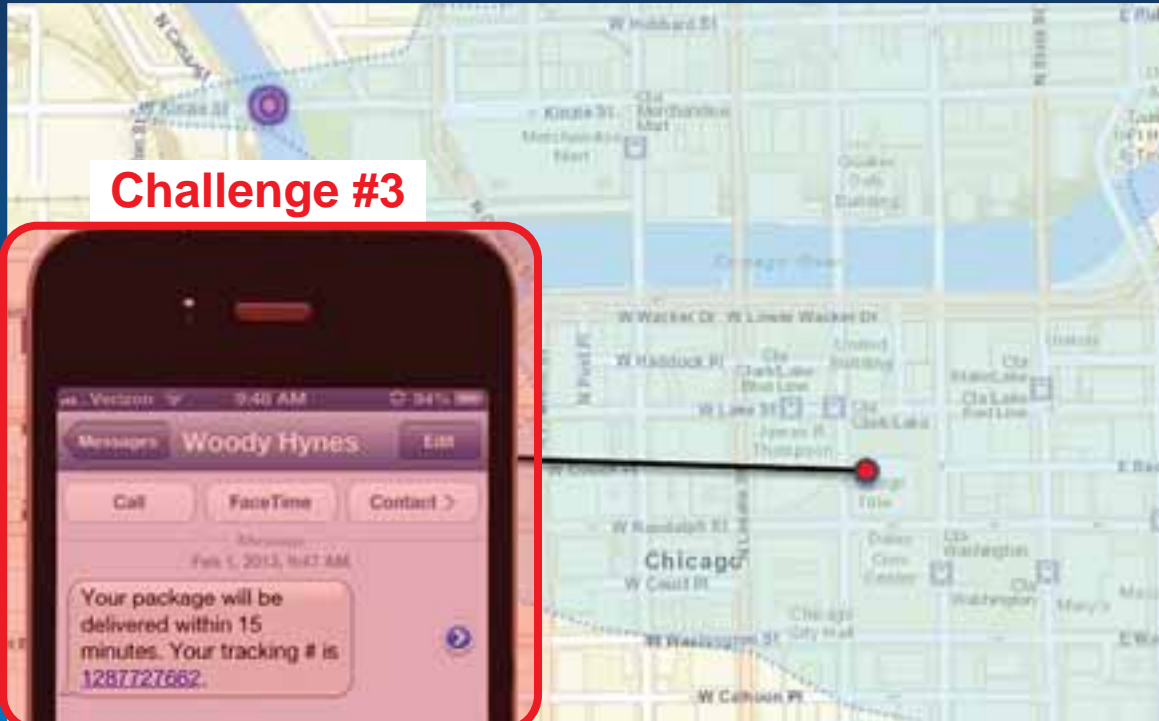


## Challenge #2



# Analyzing real-time GIS data

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



**Challenge #3**



**Continuous Analysis**

Enter Customer Area

**Features**

Delivery Vehicle

Notification

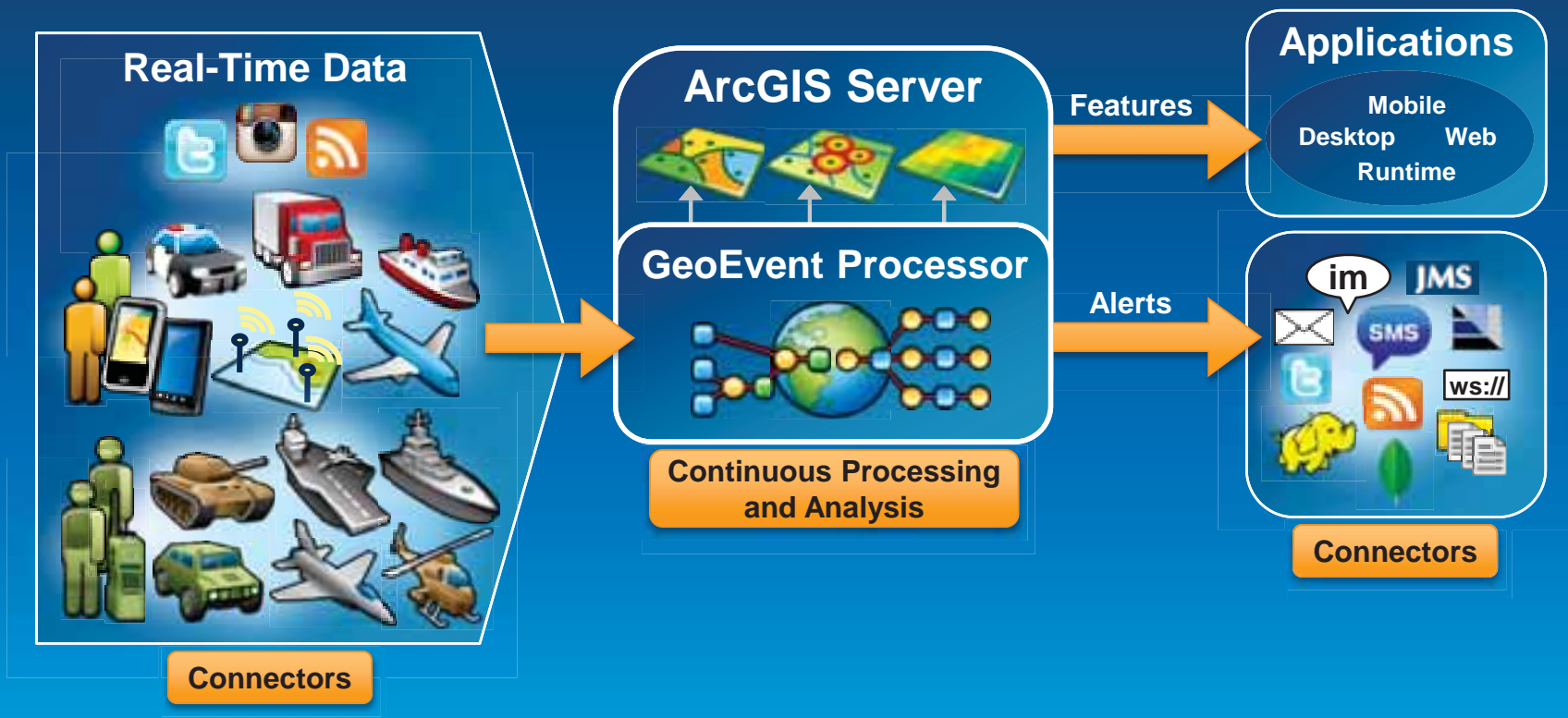


**Applications**

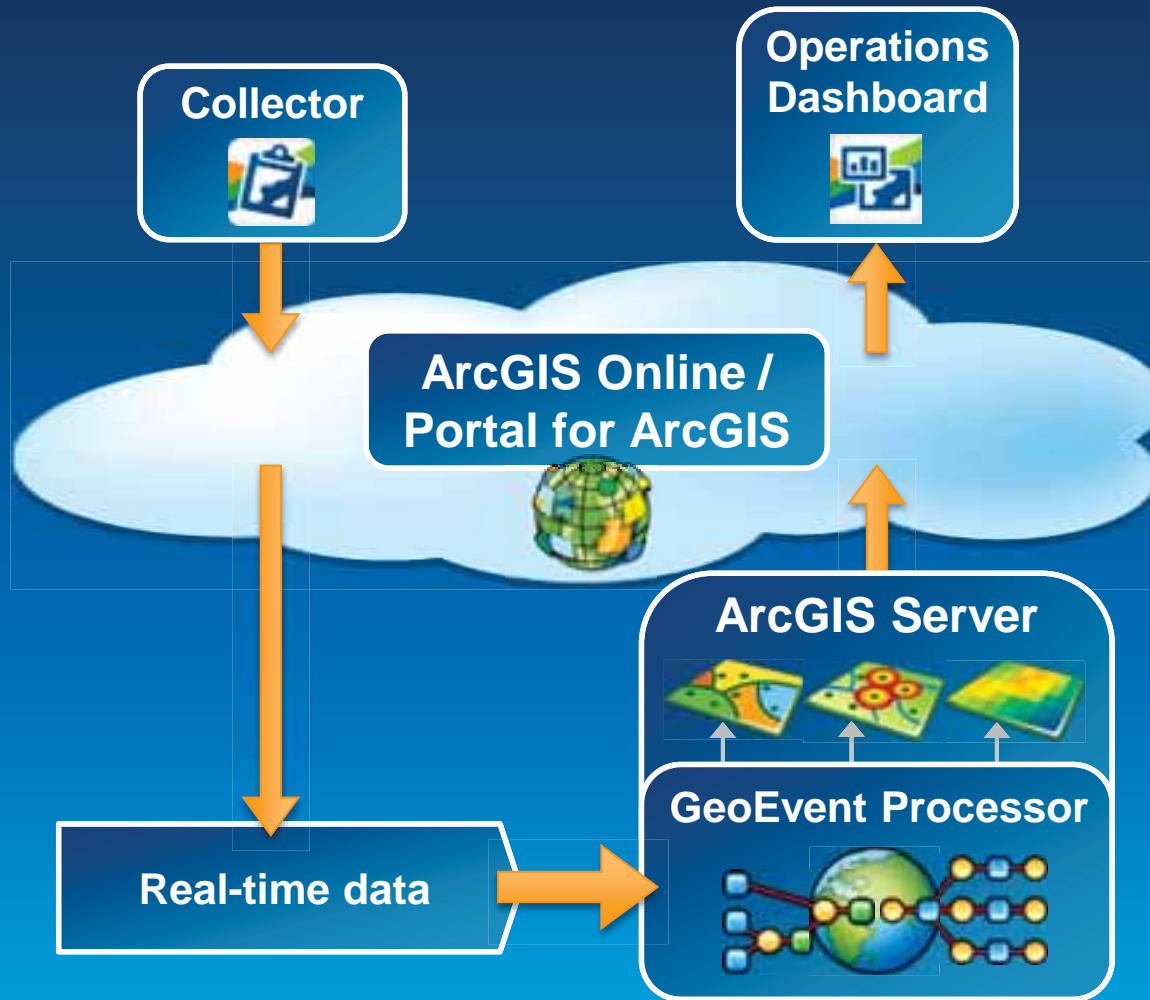
Mobile  
Desktop Web  
Runtime

# ArcGIS GeoEvent Processor for Server

- Receives real-time streaming data
- Performs continuous processing and analysis
- Sends updates and alerts to those who need it where they need it



# ArcGIS supports real-time GIS

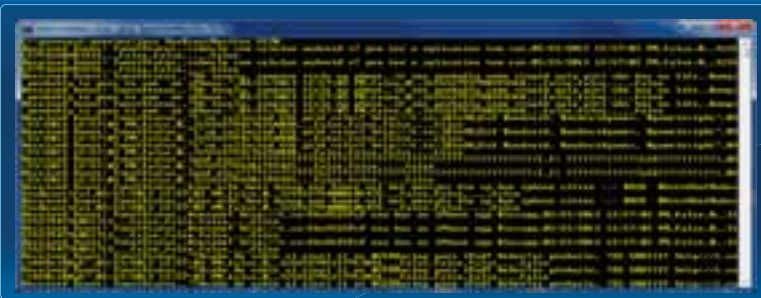
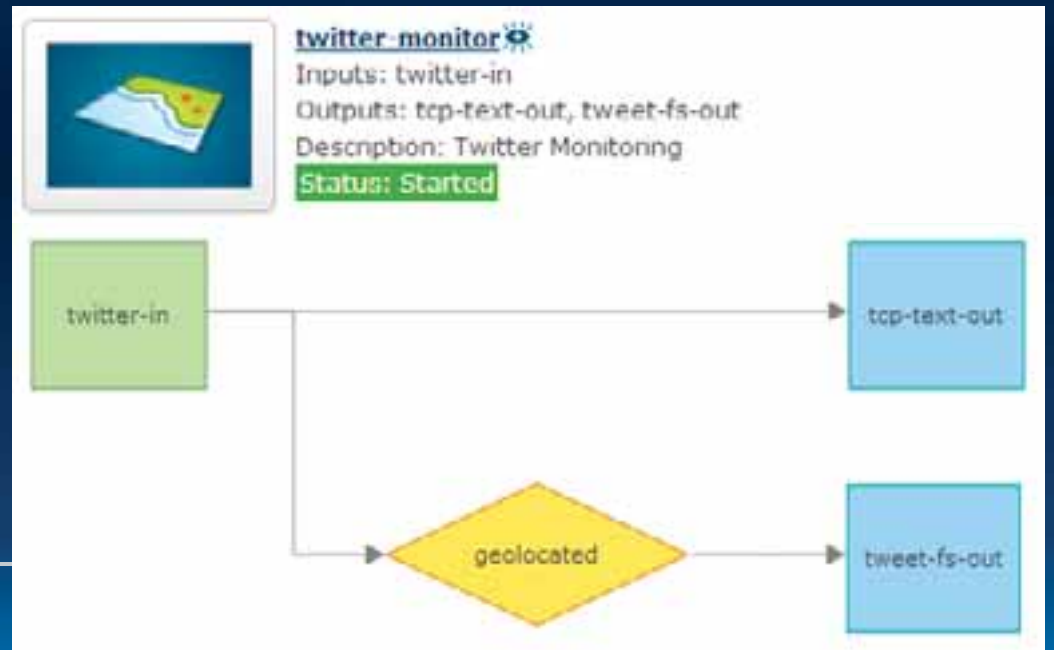




Demo

# Demonstration

Twitter monitoring

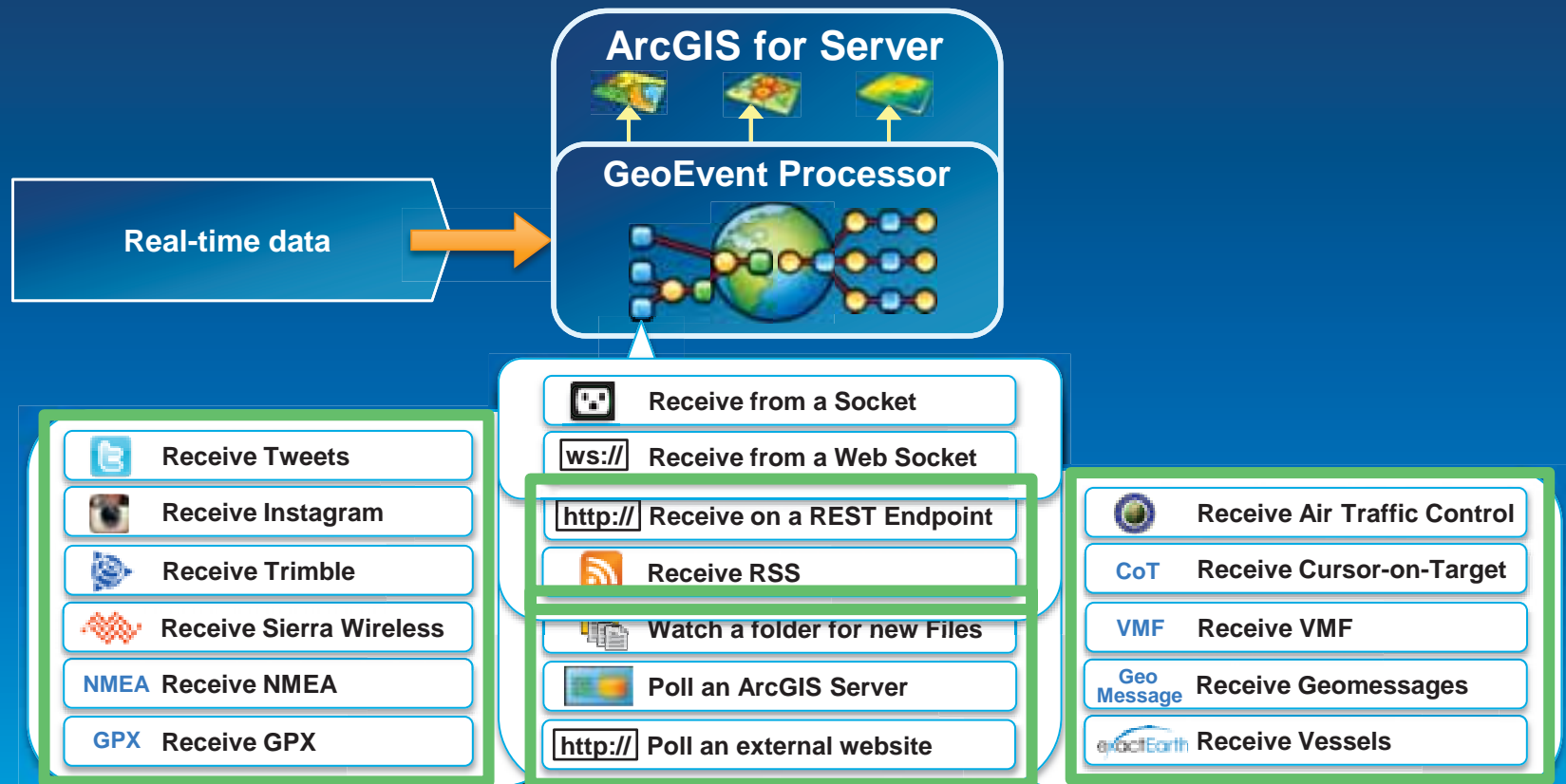


Name	Status	Count	Rate (over last 5 mins)	Max Rate	Time Since Last
tweet-fs-out	STARTED	40	0.39 /sec	0.64 /sec	00:00:00
tcp-text-out	STARTED	6566	64.37 /sec	65.07 /sec	00:00:00

# Receiving real-time data

## Input Connectors

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

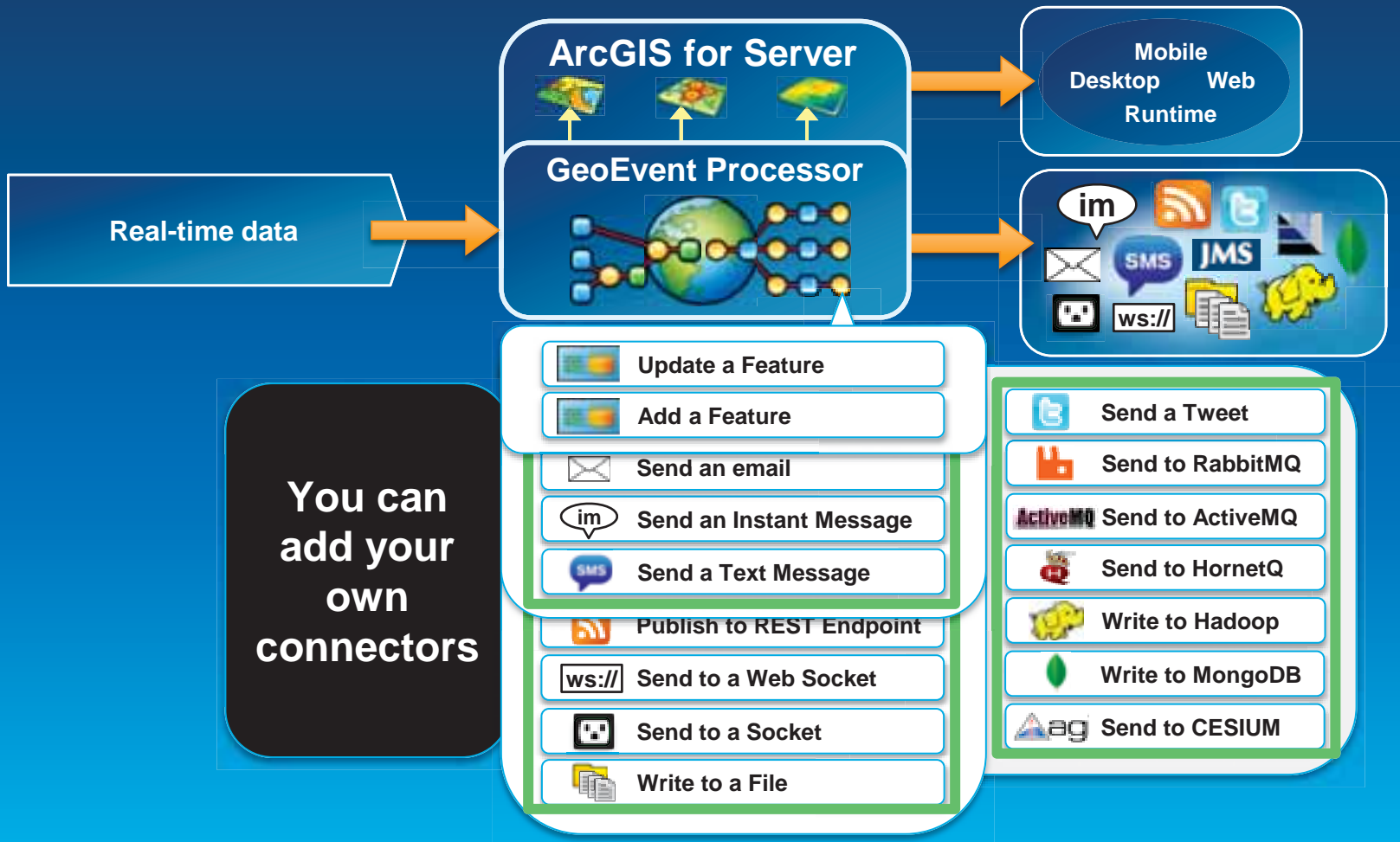


You can add your own connectors.

# Sending real-time data

## Output Connectors

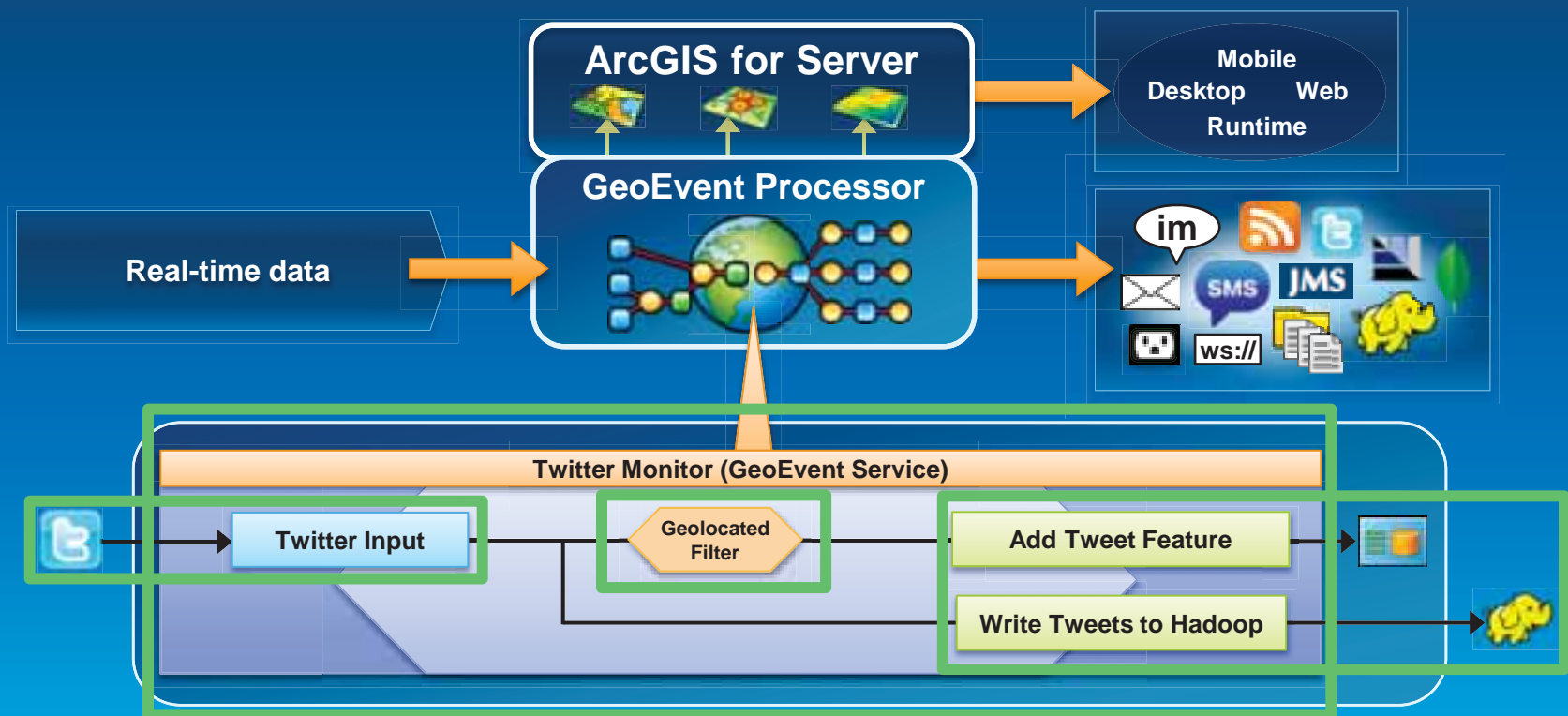
- You can easily send resulting streams to those who need it where they need it using a **connector**.



# 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.



# Performing continuous processing and analysis

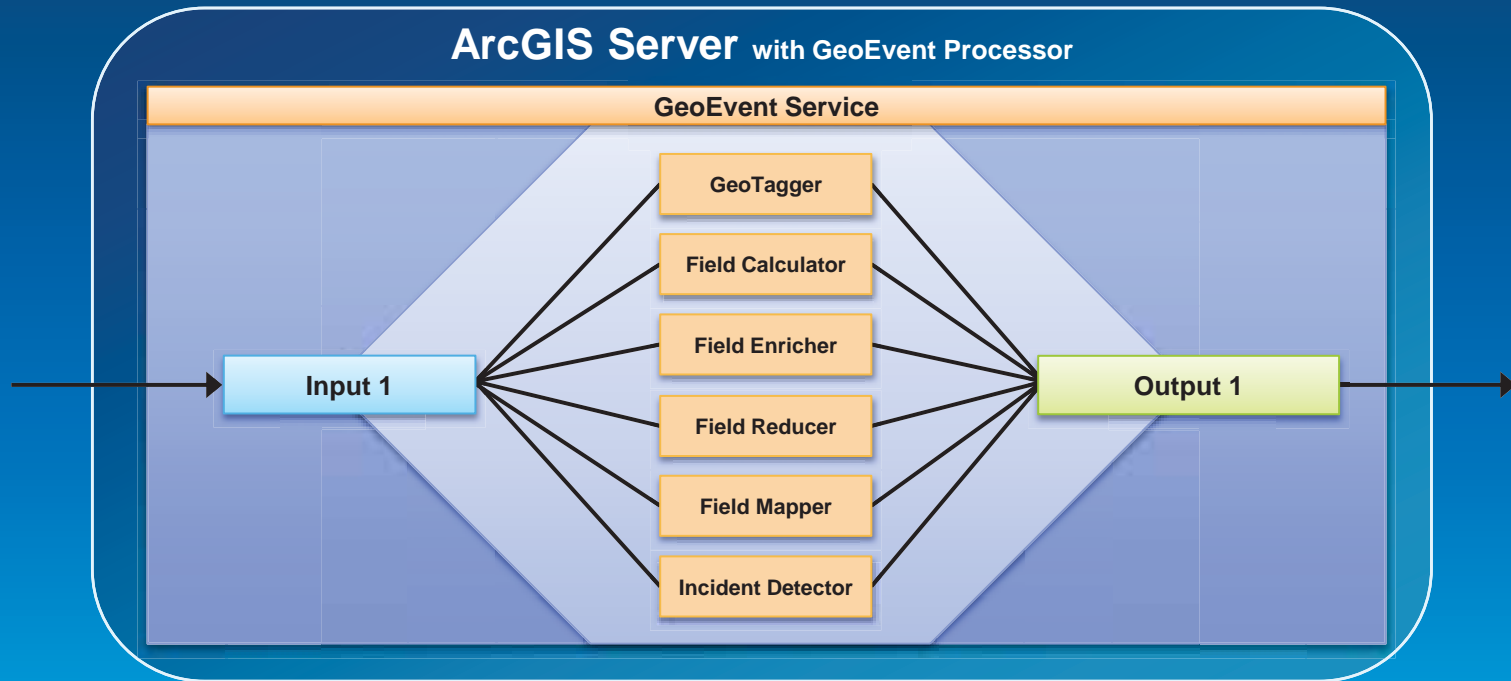
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# Continuous processing and analysis

## 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**

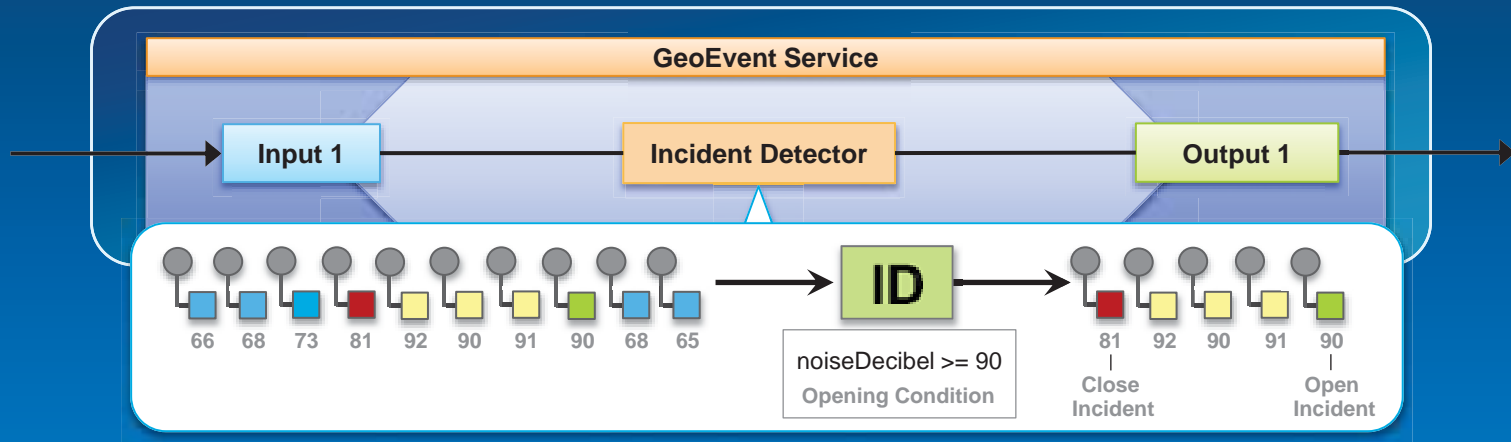


# Continuous processing and analysis

## Derive a new geoevent

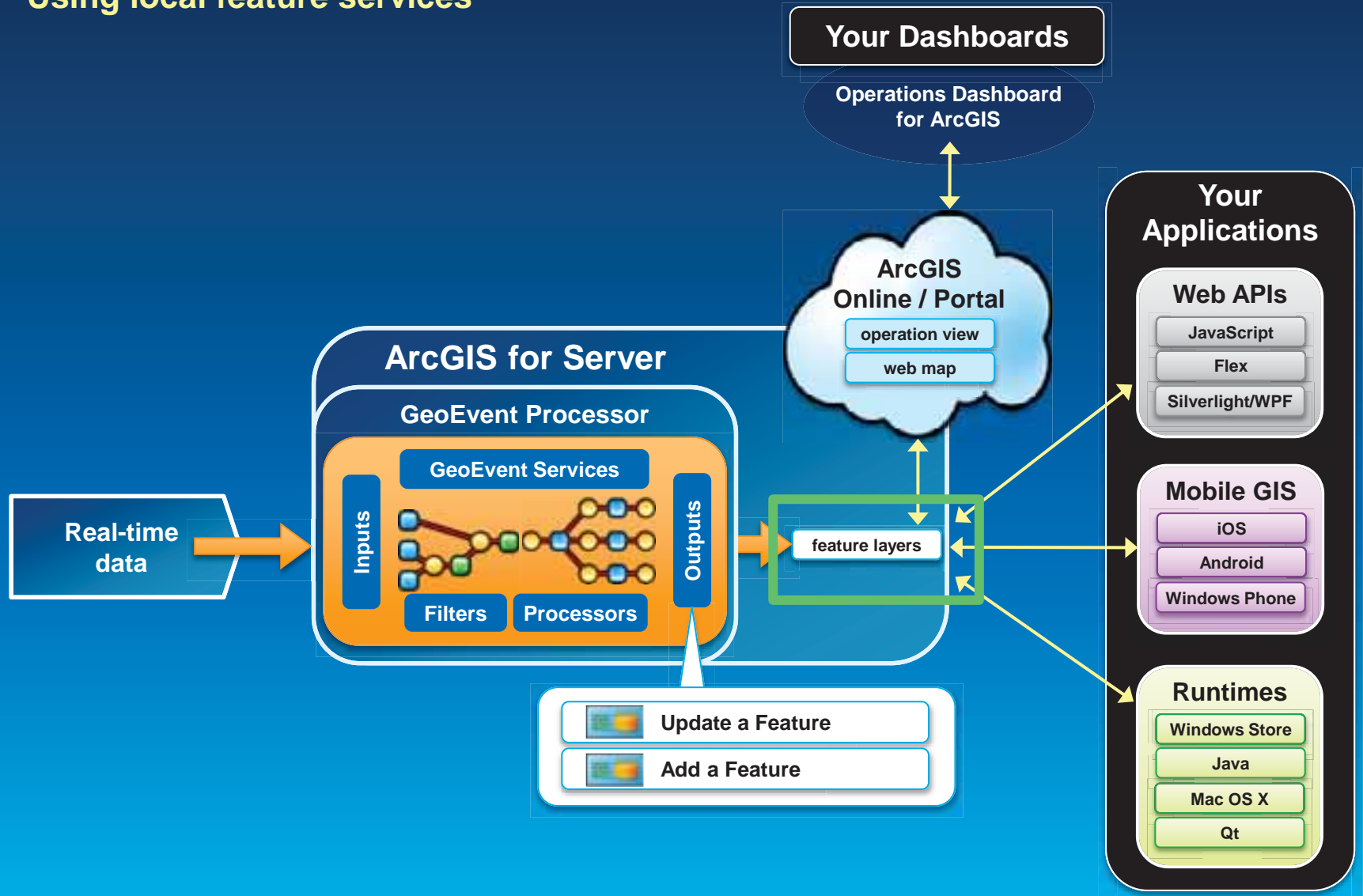
- An **Incident Detector** processor

- 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.



# Sending real-time data to features

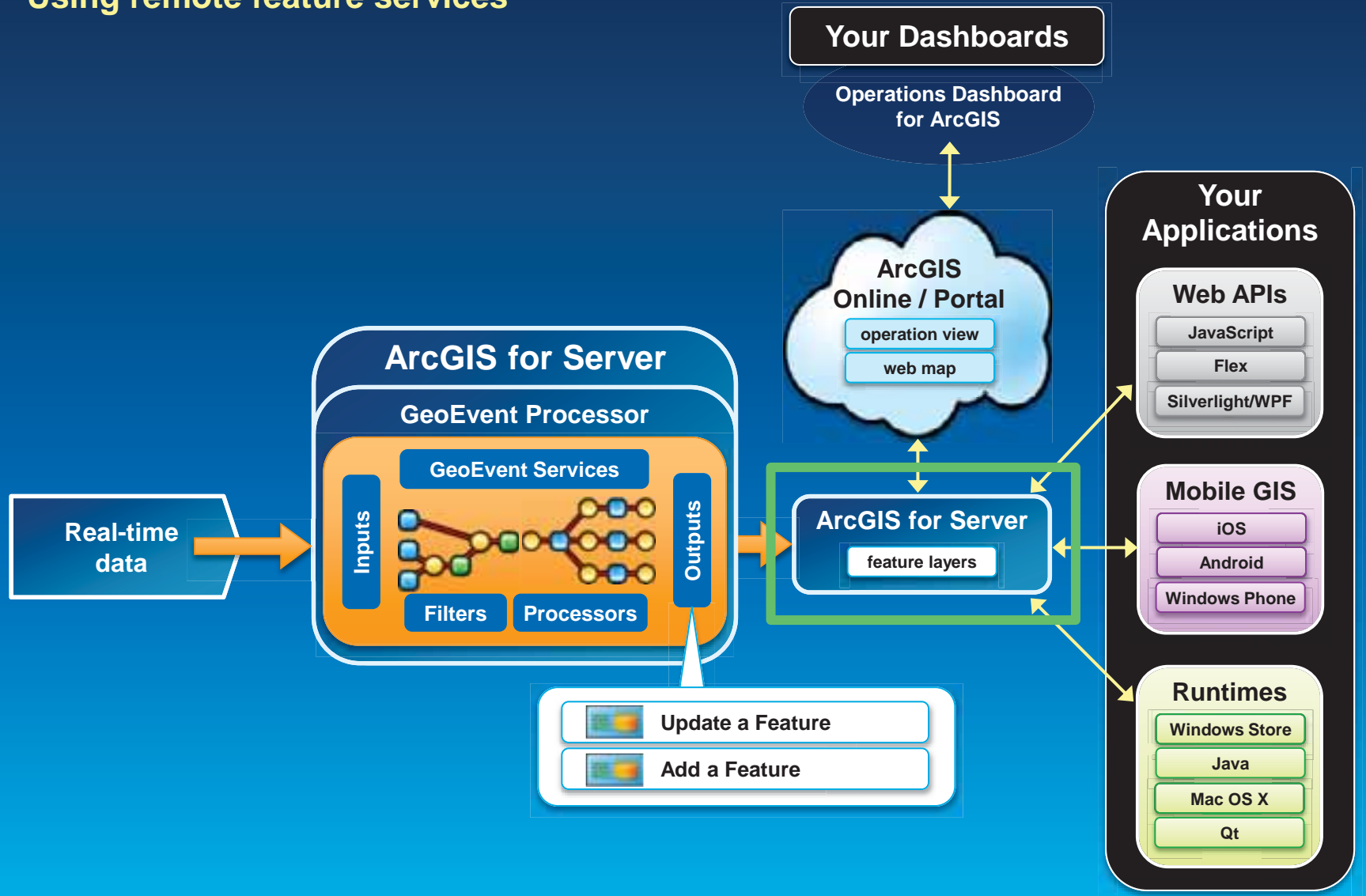
Using local feature services





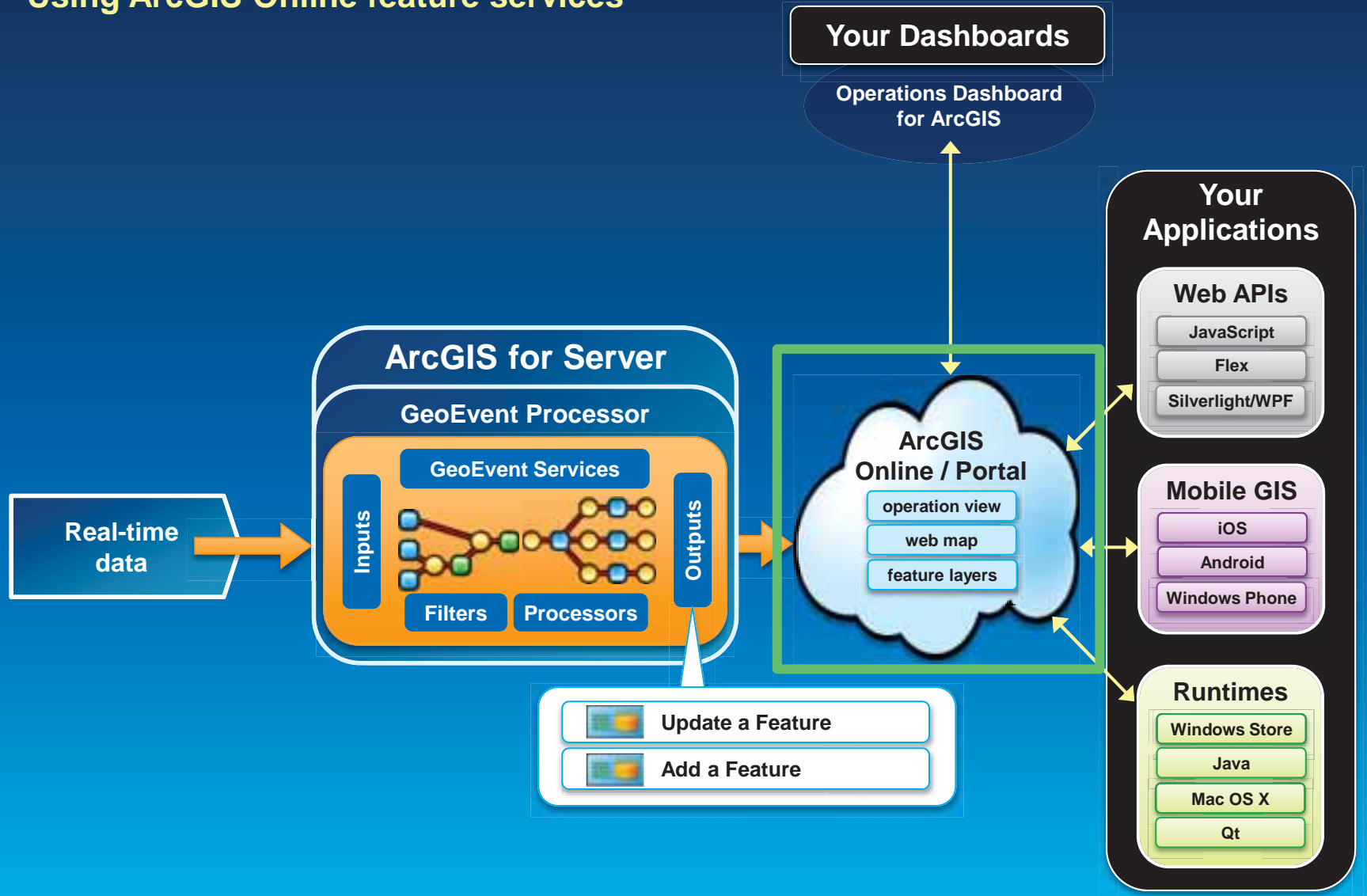
# Sending real-time data to features

Using remote feature services



# Sending real-time data to features

Using ArcGIS Online feature services

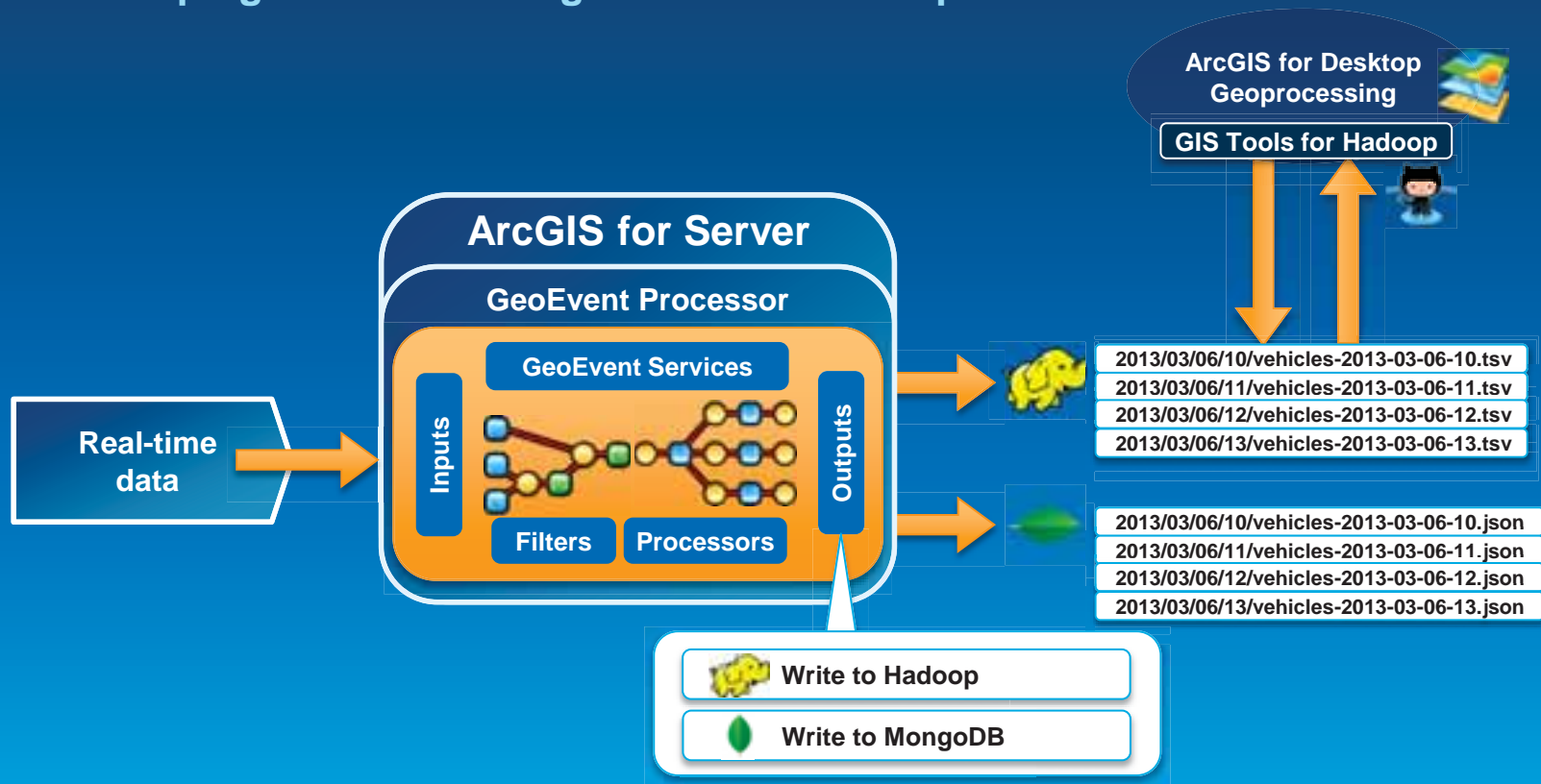


# Sending real-time data to big data stores

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>





**Demo**



# GeoEvent Processor – An Introduction

## 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>

- **Questions**

# Thanks

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Understanding our world.