

Capacity Planning and High Availability

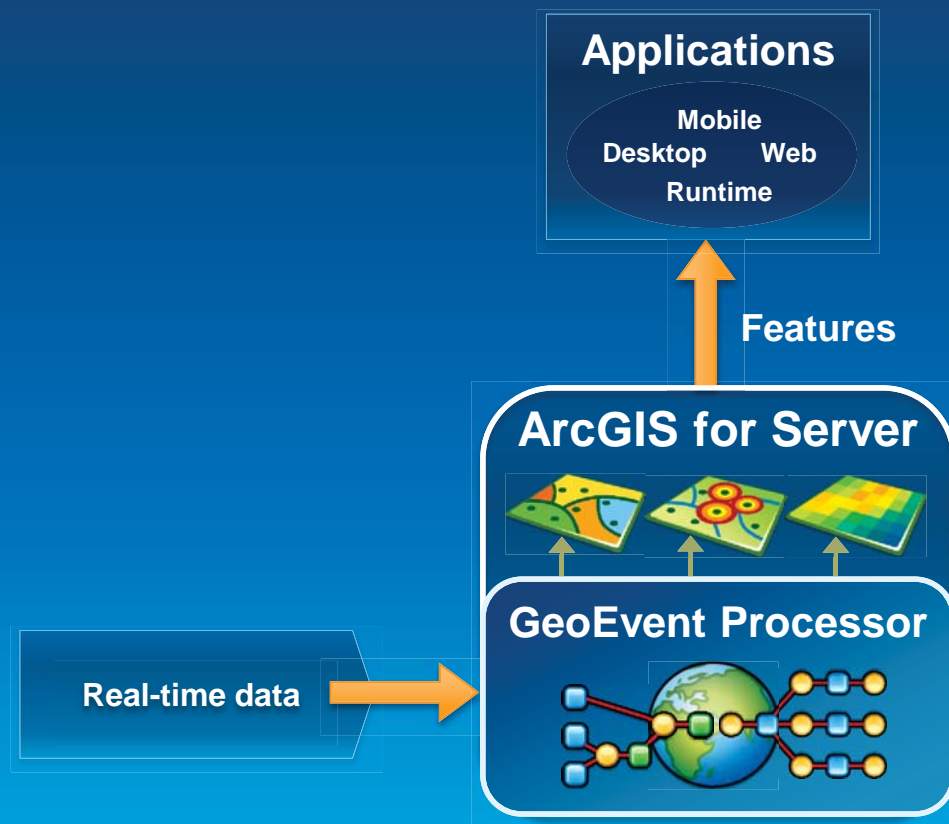
Adam Mollenkopf



Capacity Planning

Low volume Architecture

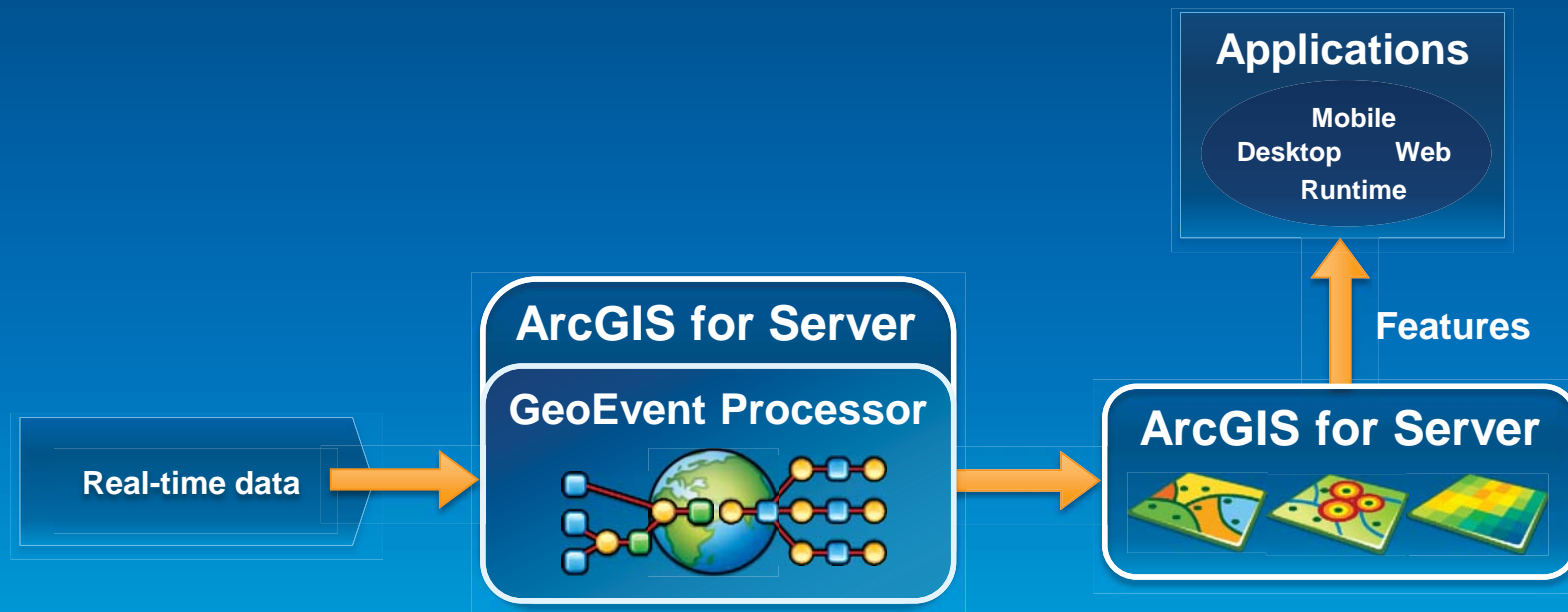
- It is possible in low volume environments to co-locate GeoEvent Processing and GIS Services.



Capacity Planning

Recommended architecture

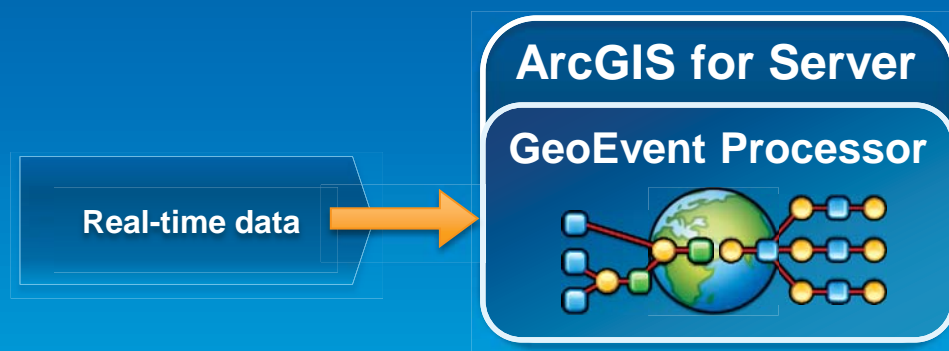
- Recommended architecture when using GeoEvent Processor
 - Dedicate an ArcGIS Server for GeoEvent Processing.
 - Dedicate an ArcGIS Server for all other GIS Services.



Capacity Planning

Understanding your application of ArcGIS

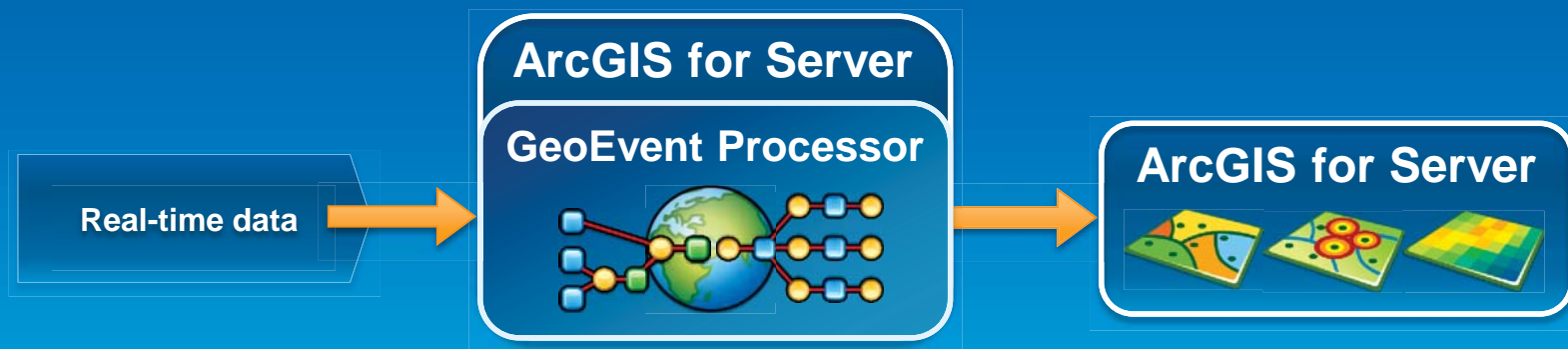
- **Establish benchmarks for your application of ArcGIS**
 - **ArcGIS GeoEvent Processor for Server**
 - What types of Inputs will you need?
 - What are the expected rates of the Inputs?
 - What types of Outputs will you need?
 - What types of GeoEvent Services (Filtering, Processing) will you need?
 - Benchmark your GeoEvent Processor configuration
 - What is the throughput, e.g. 500 events per second



Capacity Planning

Understanding your application of ArcGIS

- Establish benchmarks for your application of ArcGIS
 - ArcGIS for Server (from a GeoEvent Processor perspective)
 - What Services are running (Feature, Map, Tile, Geoprocessing, etc...)?
 - How many Feature Services will you be updating via GeoEvent Processor?
 - What is the frequency of update on each Feature Service? e.g. 1 second
 - How many features are likely to be updated/added with each update?
 - Benchmark your Feature Service throughput to know the limitations.



Capacity Planning

Understanding your application of ArcGIS

- Capacity Planning using System Designer:

- <http://video.esri.com/watch/1895/capacity-planning-using-cpt-and-system-designer>

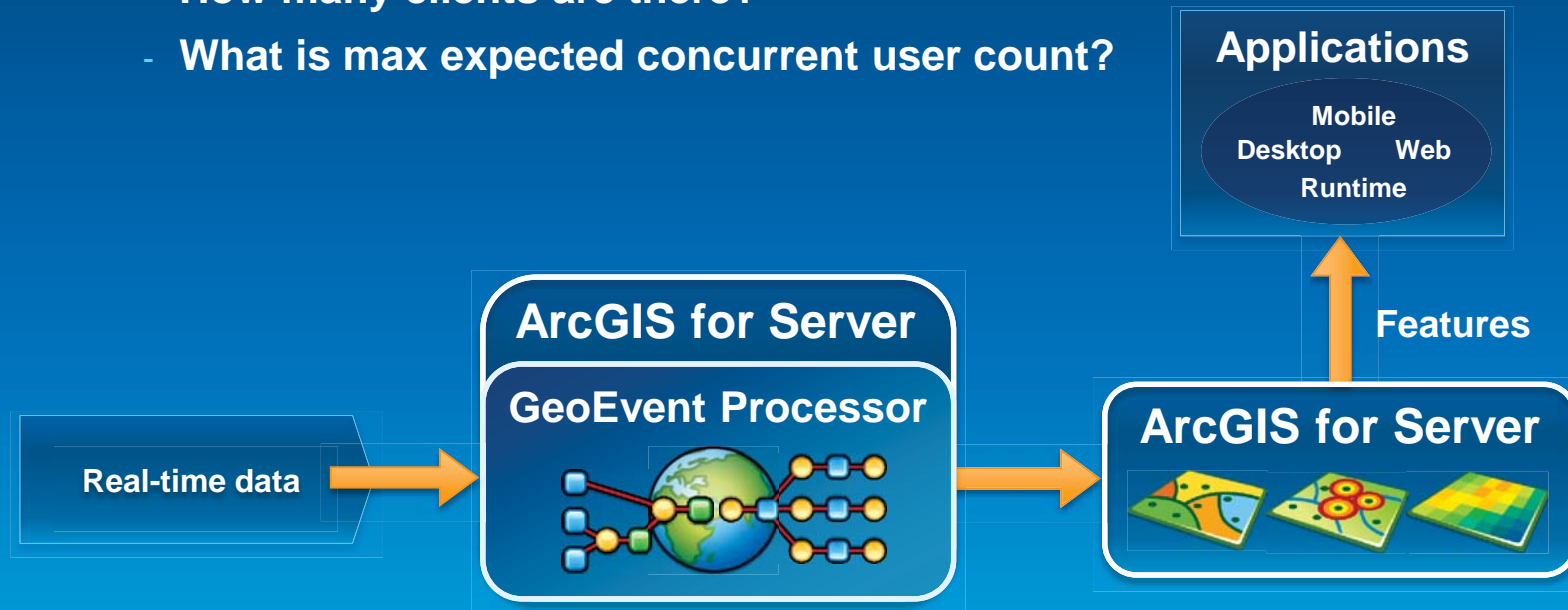
- <https://www.arcgis.com/home/item.html?id=8ff490eef2794f428bde25b561226bda>



Capacity Planning

Understanding your application of ArcGIS

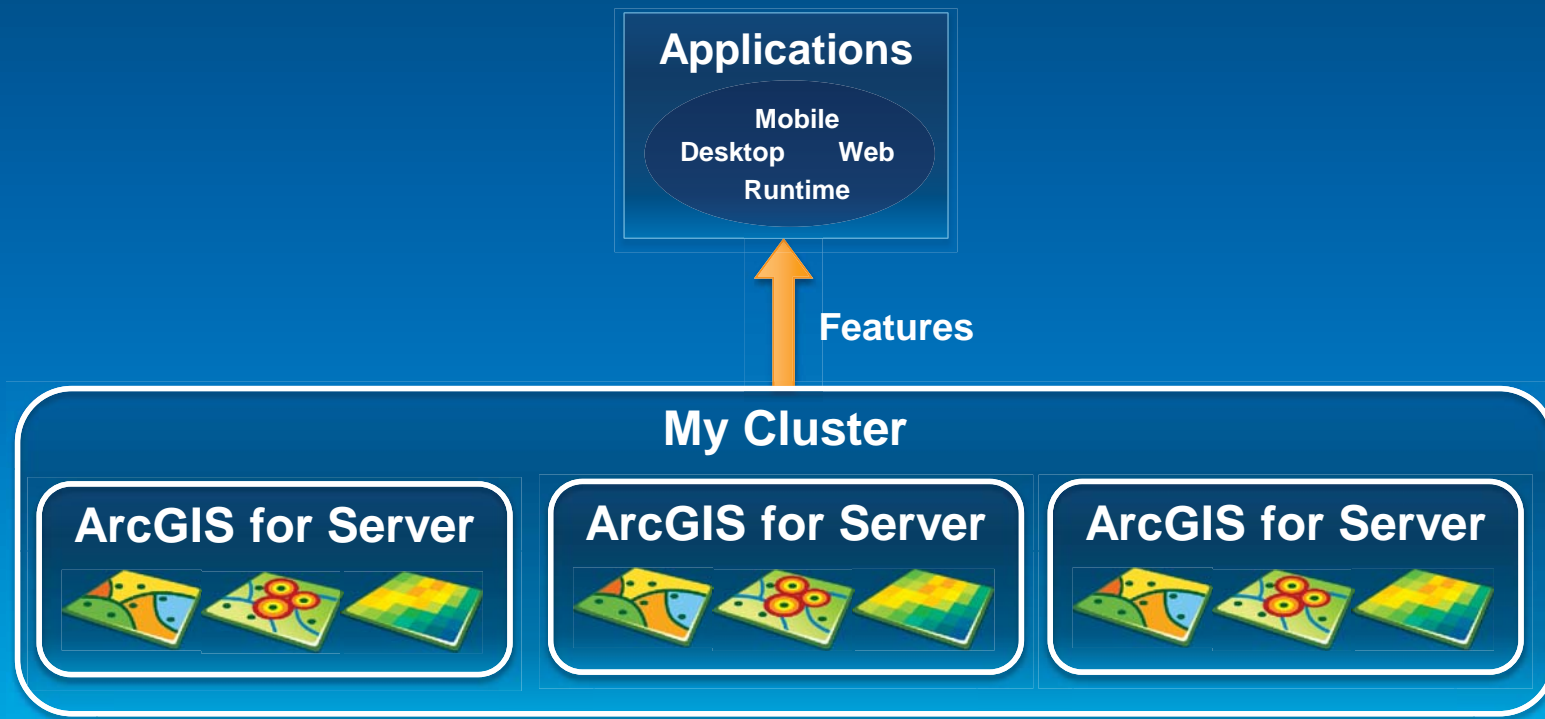
- Establish benchmarks for your application of ArcGIS
 - What clients of ArcGIS Server are there?
 - What feature services do they consume?
 - How often do they poll the server for update?
 - How many clients are there?
 - What is max expected concurrent user count?



Capacity Planning

Adding Capacity for GIS Services

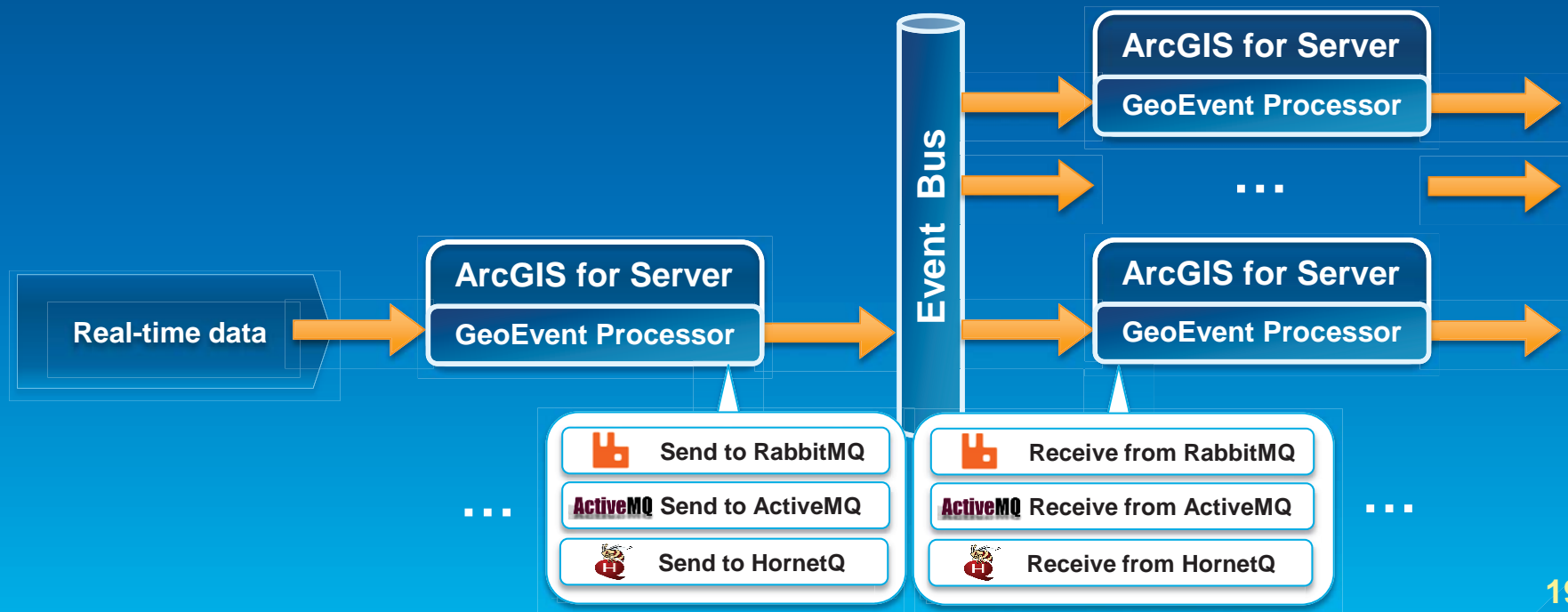
- Add machines to a Site
 - Create a cluster
 - Assign machines to a cluster
 - All machines in a cluster share a common configuration of GIS Services



Capacity Planning

Adding Capacity for GeoEvent Processing

- **No out-of-the-box support at 10.2 but can be done manually:**
 - Establish a 'Receiver' node
 - receive Real-time data and publishes GeoEvents to an Event Bus
 - Create GeoEvent Processing nodes
 - Establish a common configuration
 - Import common configuration on all GeoEvent Processing nodes



Capacity Planning

Adding Capacity for GeoEvent Processing

- No out-of-the-box support at 10.2 but can be done manually:
 - Known Limitations
 - Any stateful processor will not work properly, e.g. Incident Detector
 - Any stateful conditions will not work properly, e.g. Enter and Exit

