



Esri International Developer Summit
Palm Springs, CA

The Internet of Things (IoT) and ArcGIS GeoEvent Processor



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The Internet of Things (IoT)

Everything Connected

- Tying together the physical, digital, and analytic worlds
 - Uniquely identifiable network of physical objects



There will be nearly 26 billion devices on the Internet of Things by 2020

(Gartner, <http://www.gartner.com/newsroom/id/2636073>)

The Internet of Things (IoT)

Everything Connected

- Connected Cars
 - AT&T Drive Studio: “Smart phone on four wheels”
 - Nissan, Tesla, GM, Ford, BMW, Audi



The Internet of Things (IoT)

Everything Connected

- **Connected Environment**
 - Environmental Sensors
 - Nature to Machine interface

Soil Chemistry Sensors



CO2 Air Quality



Reports carbon dioxide

Chemical Sensor



Reports volatile organic compounds

Light Sensor



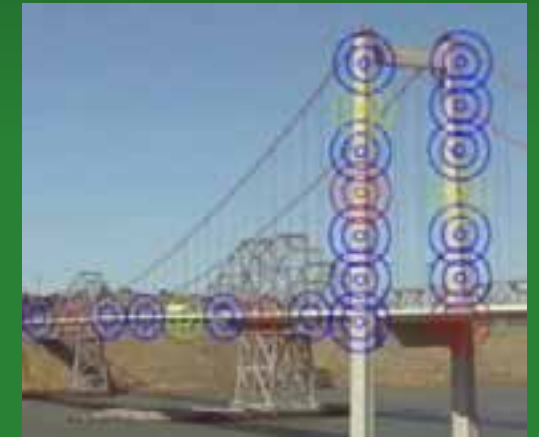
Reports luminosity

Micro Weather Station



Reports ambient temperature, relative humidity & barometric pressure

HP Labs – CeNSE



Feel, taste, smell, see, and hear

The Internet of Things (IoT)

Everything Connected

- Connected Buildings
 - Smart appliances
 - Monitoring



The Internet of Things (IoT)

Everything Connected

- Connected Sports
 - Infomotion 94Fifty smart sensor basketball
 - Sony smart tennis racket sensor



The Internet of Things (IoT)

Everything Connected

- Connected People
 - Smart wearables

Google Glass



Platronics Headset



Sensoria Sports Bra/Shirt



Samsung Galaxy Gear



Under Armour Armour39



Jawbone Up



Sensoria Smart Socks



The Internet of Things (IoT)

Everything Connected

- Connected Retail
 - Proximity to brand, interest sensing
- Connected Schools
 - Modern solution for frantic and frequent head counts



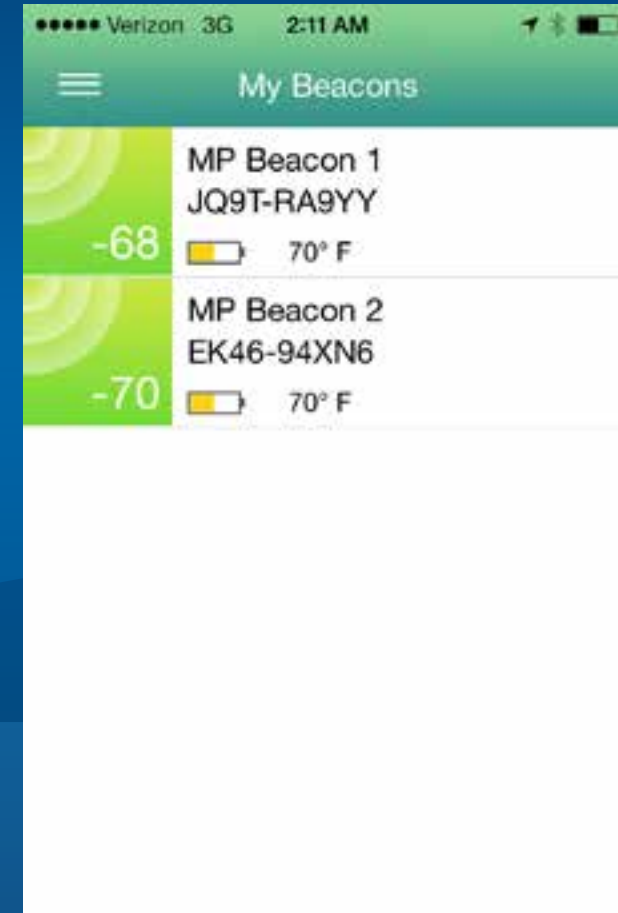
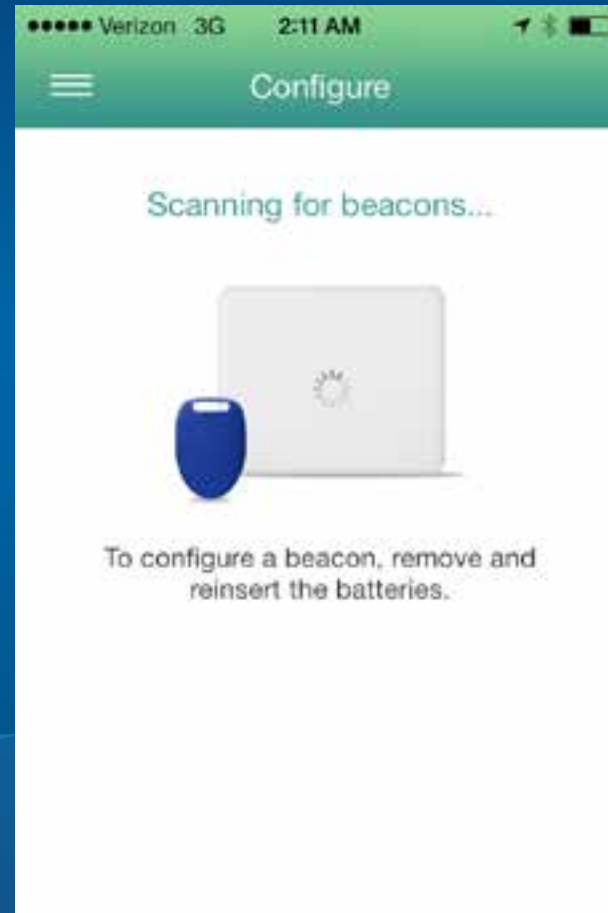
Gimbal Proximity Beacons



Context Awareness platform a product of Qualcomm Retail Solutions, Inc.

Gimbal beacons

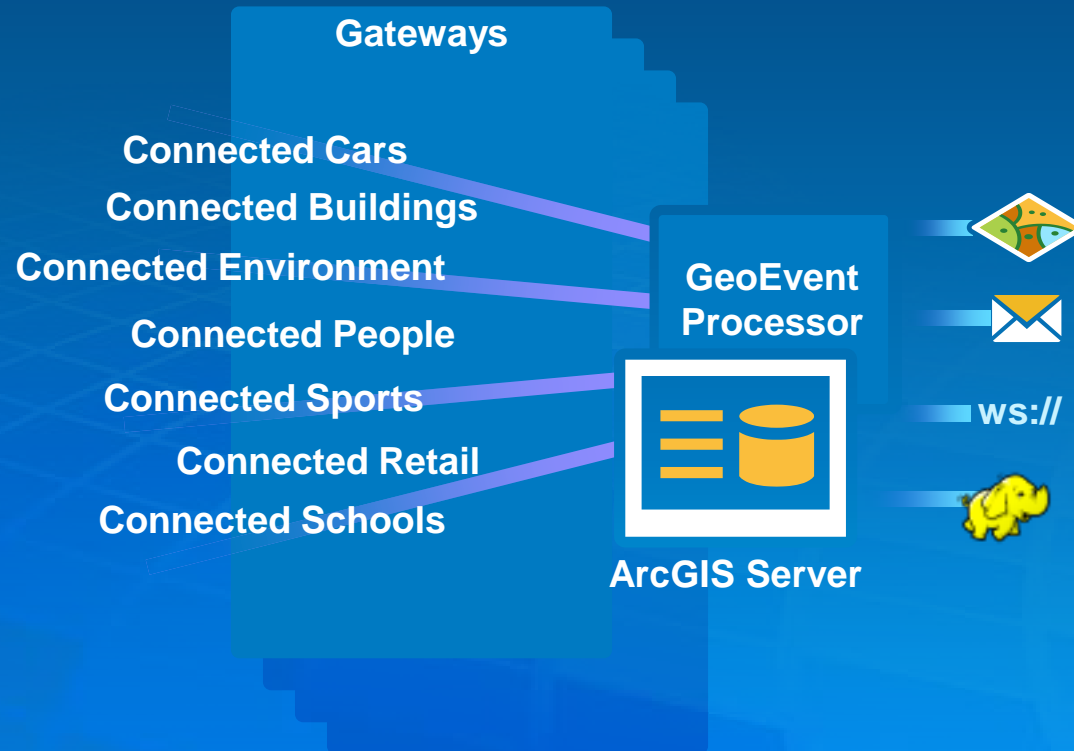
Proximity sensing



The Internet of Things (IoT)

Everything Connected

- Spatial reasoning is needed amongst the Internet of Things
- Performing continuous analytics closer to the things can improve their ability to sense
- When meaningful patterns are found things can send updates to those who need it



Connected Buildings and ArcGIS

Sensors used in this workshop

I N S T E  N

Open/Close Sensor



Motion Sensor



INSTEON Hub (Gateway)



Power switcher



On or Off based on signal

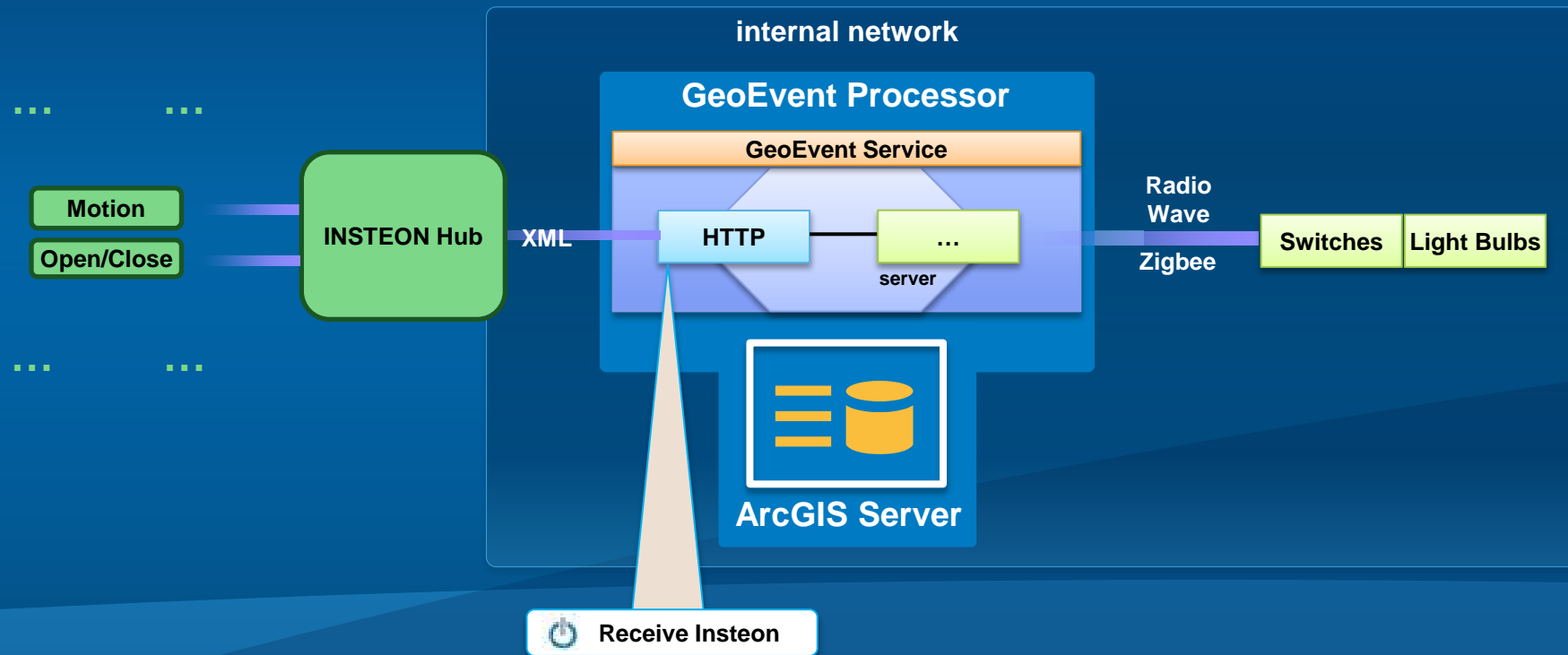
Power switcher



On or Off based on signal

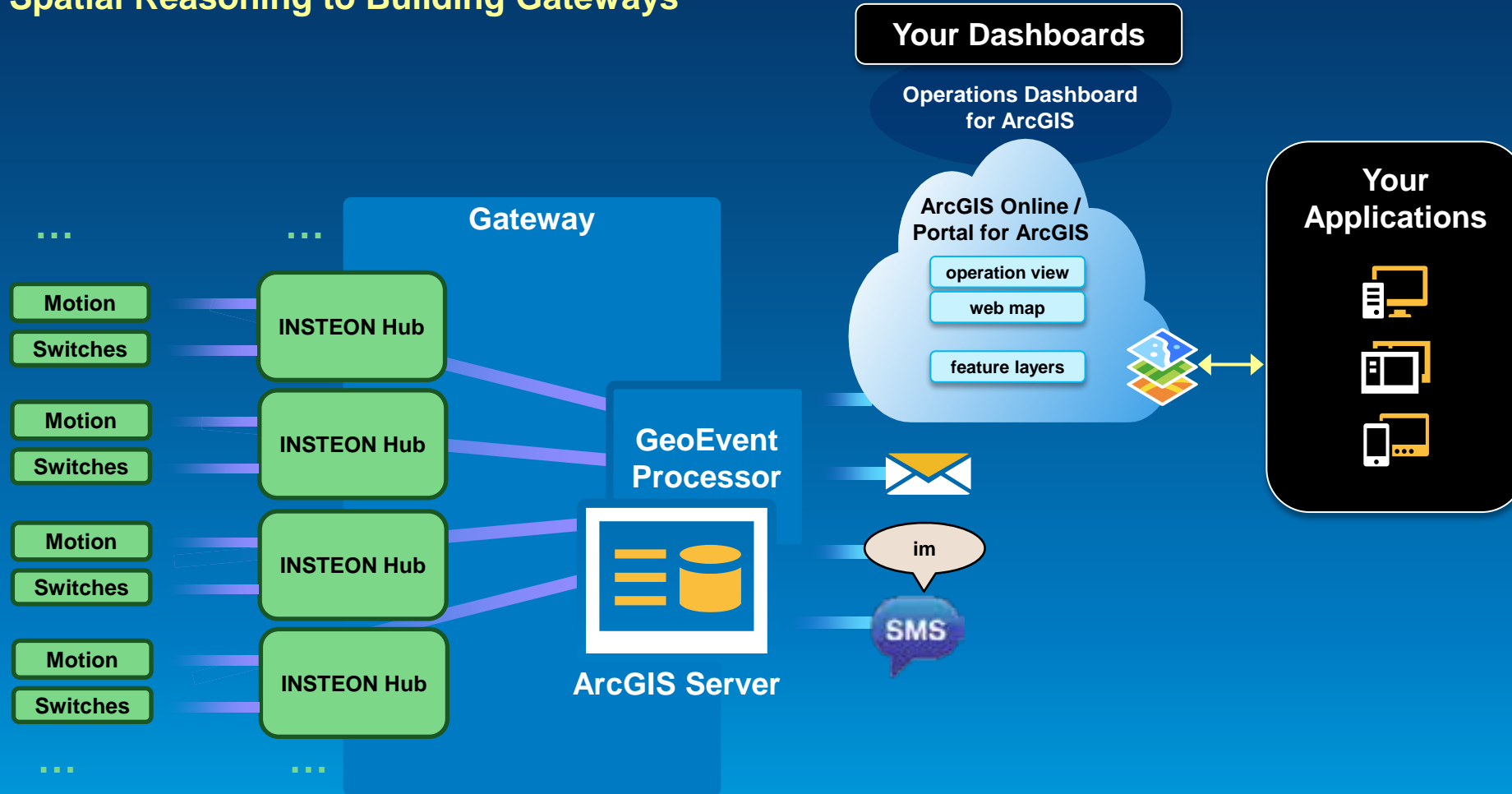
Connected Buildings and ArcGIS

Insteon for GeoEvent Processor



Connected Buildings and ArcGIS

Adding Spatial Reasoning to Building Gateways



Connected Environment and ArcGIS

Sensors used in this workshop



Yoctopuce Yocto-VOC



Reports volatile organic compounds

Yoctopuce Yocto-Light



Reports luminosity

Yoctopuce Yocto-Meteo



Reports ambient temperature, relative humidity & barometric pressure

Yoctopuce Yocto-CO2



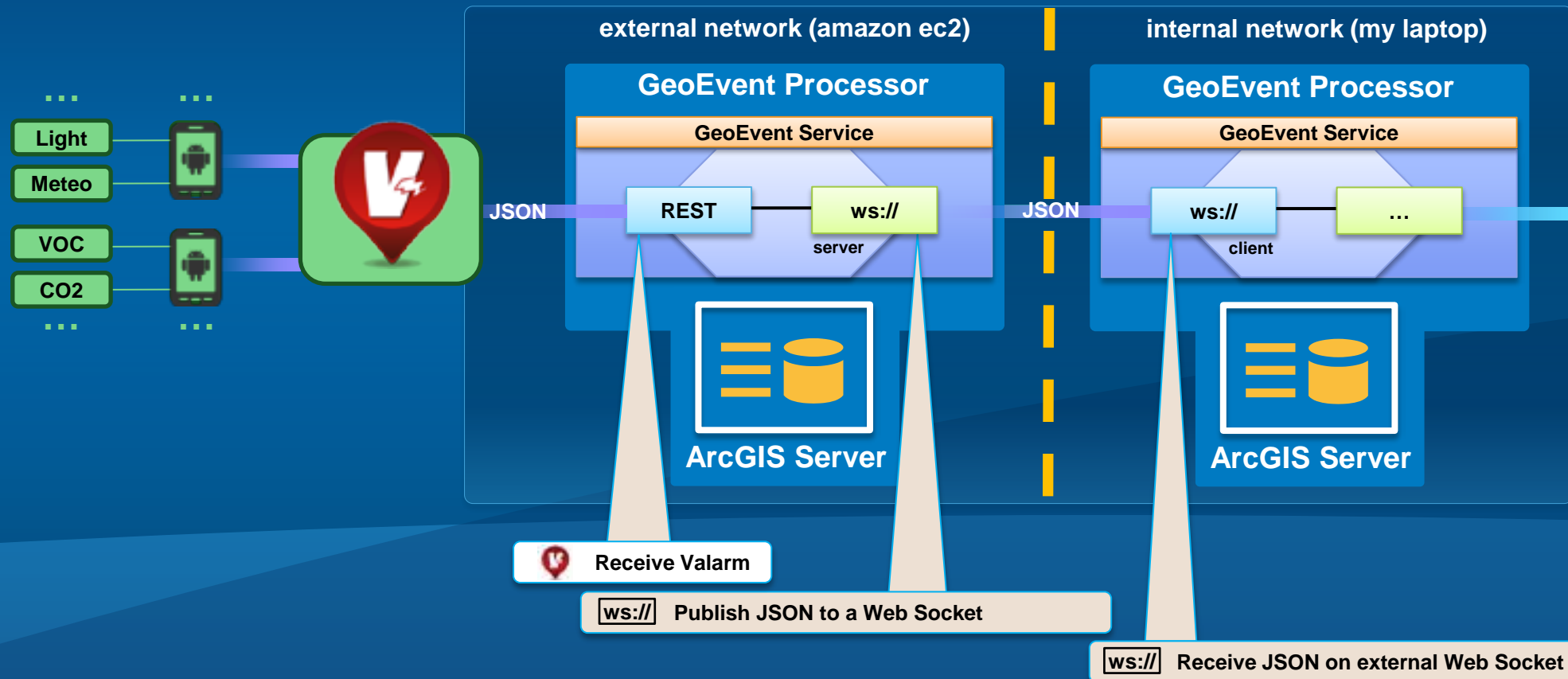
Reports carbon dioxide



Valarm & Yocto-Meteo with Solar Power

Connected Environment and ArcGIS

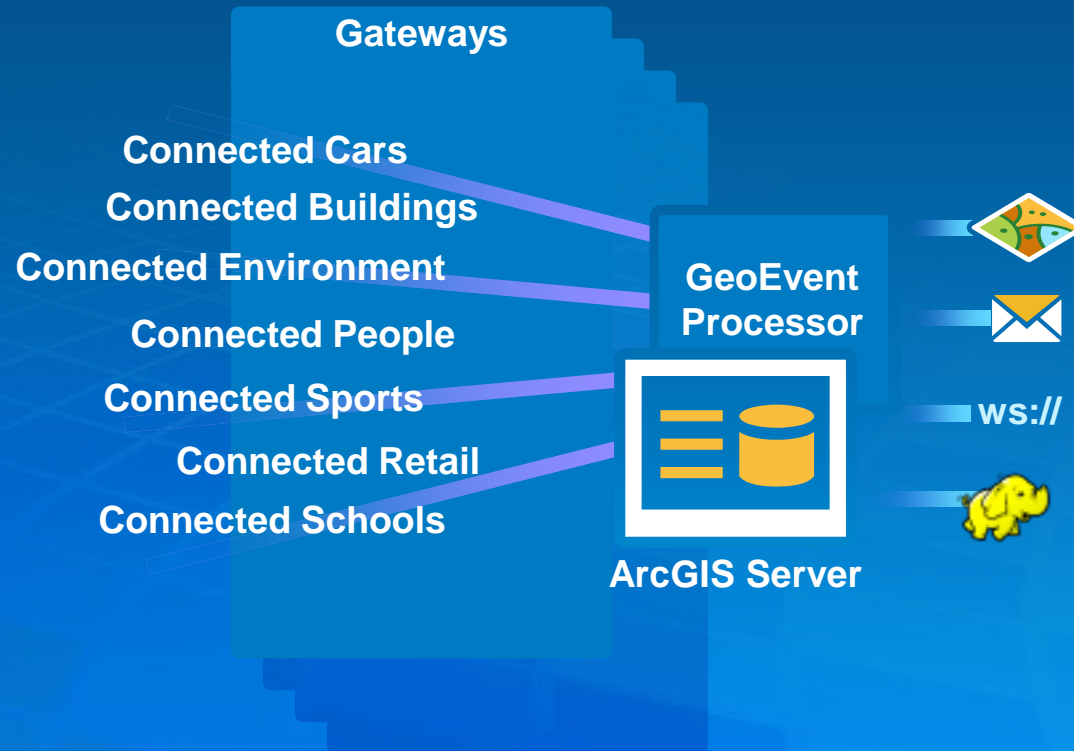
Valarm for GeoEvent Processor



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Questions / Feedback?

To learn more:

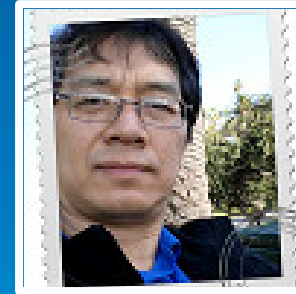
<http://links.esri.com/geoevent-processor>

Please submit a session survey:

<http://www.esri.com/events/devsummit/session-rater>



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