

Publicación de cartografía para la web

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3. Arquitectura de aplicaciones Web para SIG

Objetivo

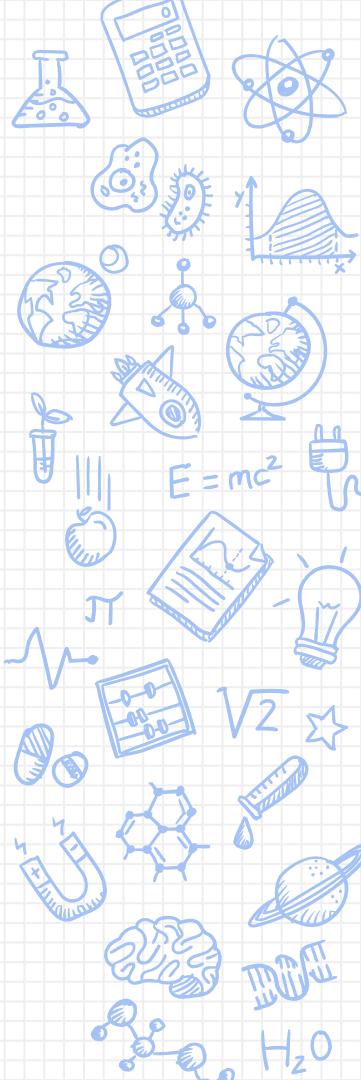
Conocer las generalidades sobre arquitecturas de software para la publicación de geoservicios y aplicaciones web para SIG

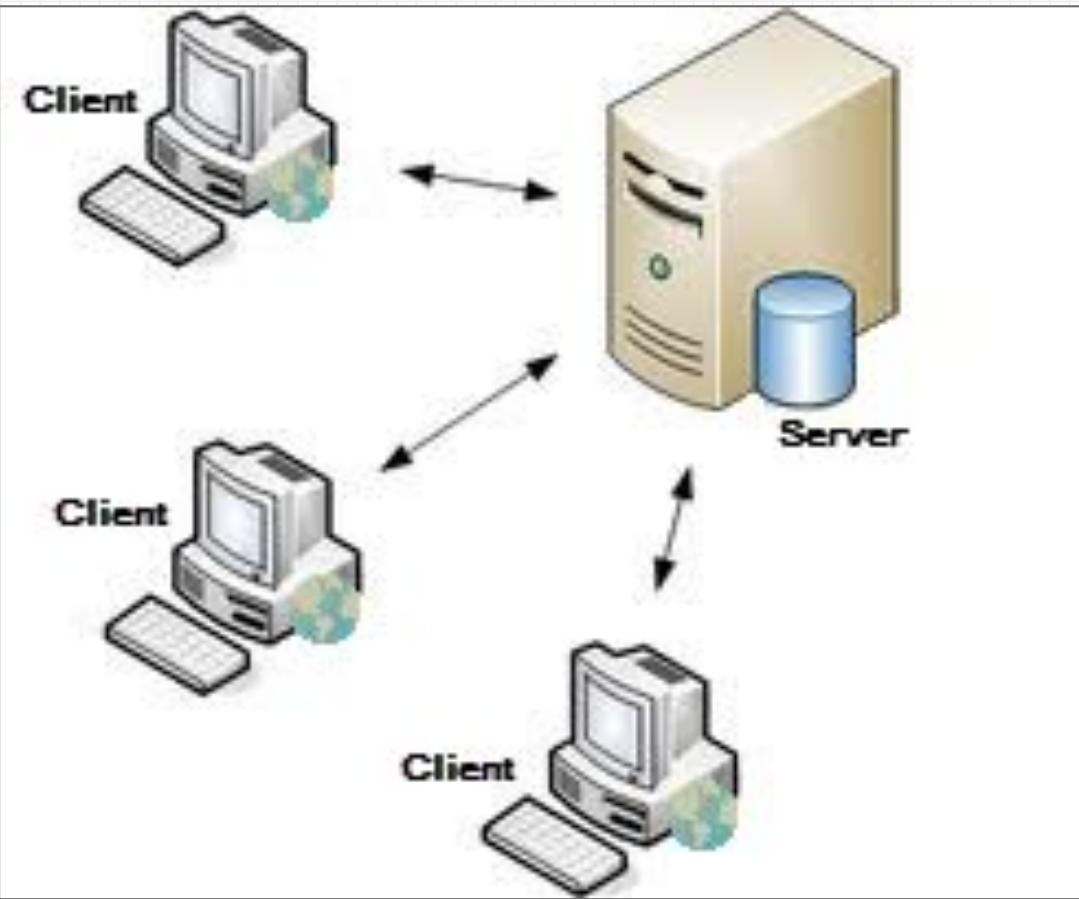
Arquitectura de Aplicaciones

Nota

En la siguiente presentación se incluyen imágenes tomadas de:

- ✗ ESRI.com
- ✗ Abdalla, R. (2016). Distributed GIS Technology. In Introduction to Geospatial Information and Communication Technology (GeoICT) (pp. 63–81). Springer International Publishing.
https://doi.org/10.1007/978-3-319-33603-9_4
- ✗ Architecting the ArcGIS Platform: Best Practices
<https://assets.esri.com/content/dam/esrisites/en-us/media/pdf/architecting-the-arcgis-platform.pdf>





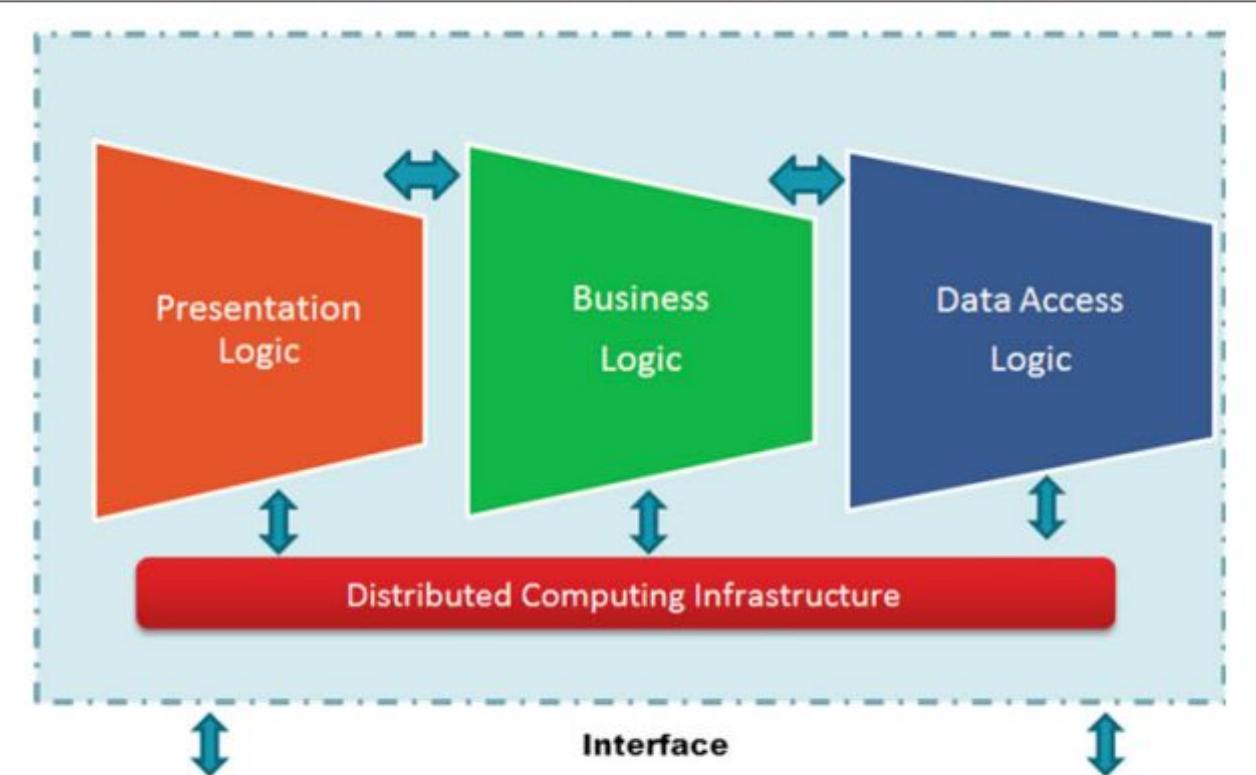


Fig. 4.3 Three-tier architecture

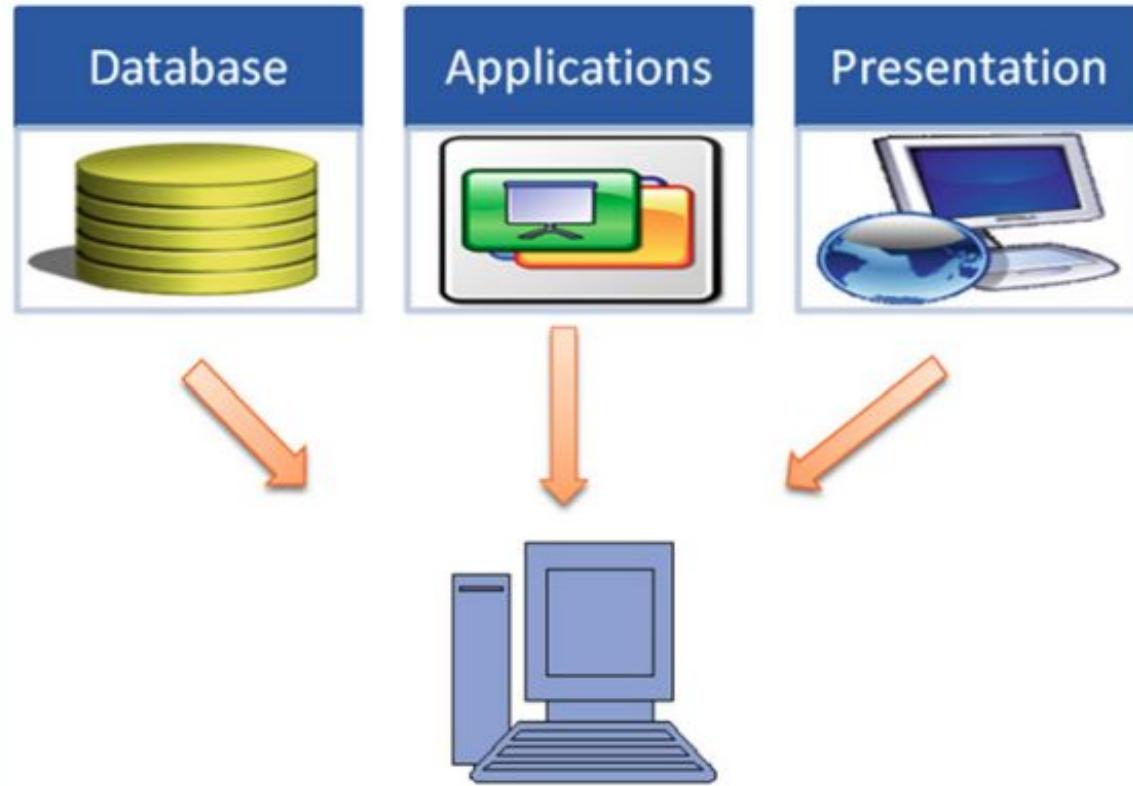


Fig. 4.1 One-tier architecture

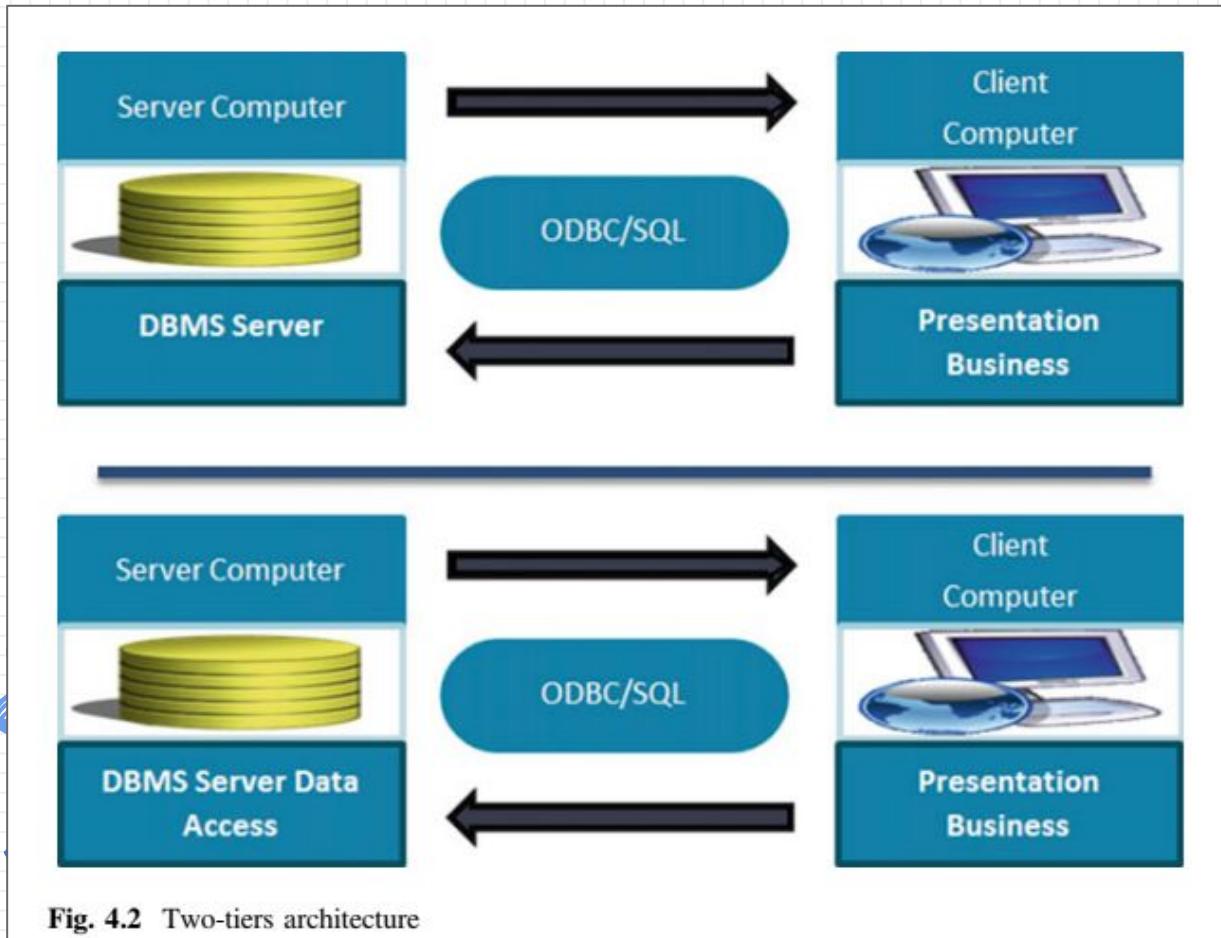


Fig. 4.2 Two-tiers architecture

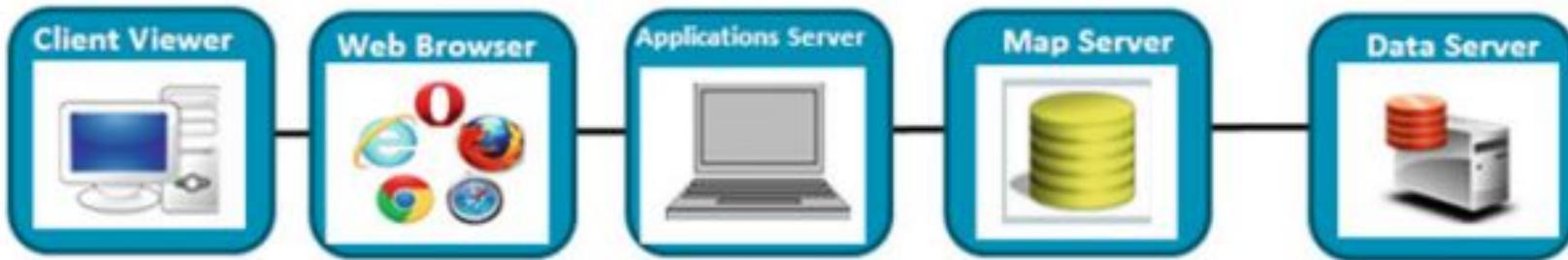


Fig. 4.5 Sample diagram showing distributed GIS

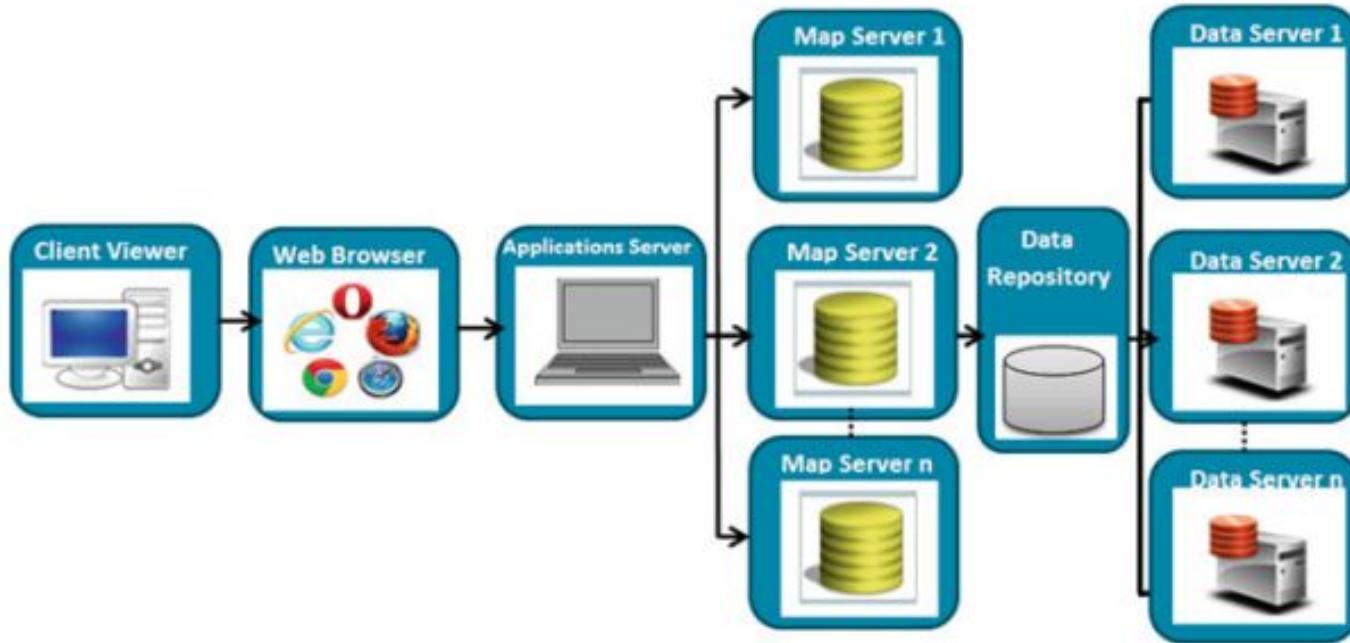
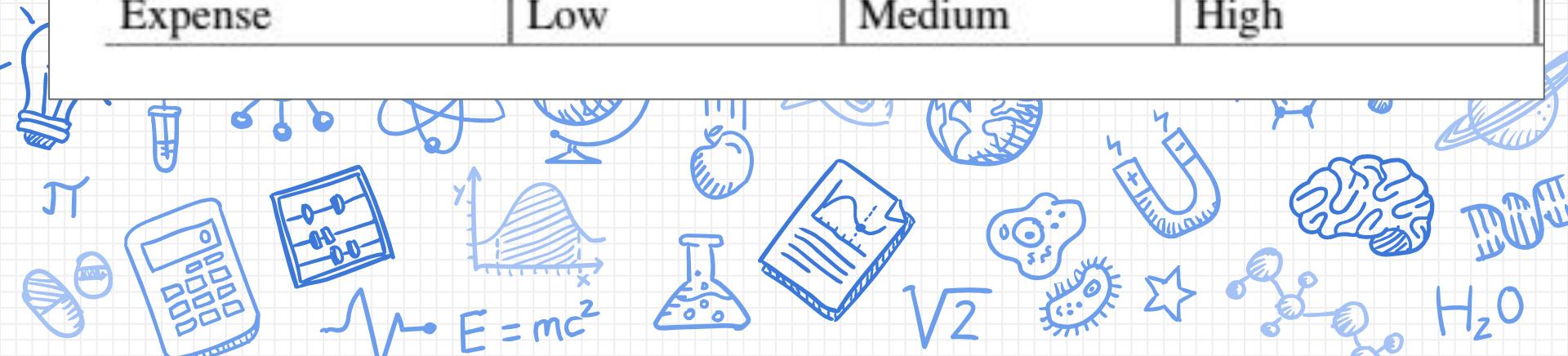


Fig. 4.7 Multiserver distributed GIS

Table 4.1 Comparison between the different computing architectures

	One tier	Two tier	Three tier
Performance	Good	Good	Excellent
Reliability	Medium	High	Highest
Expense	Low	Medium	High



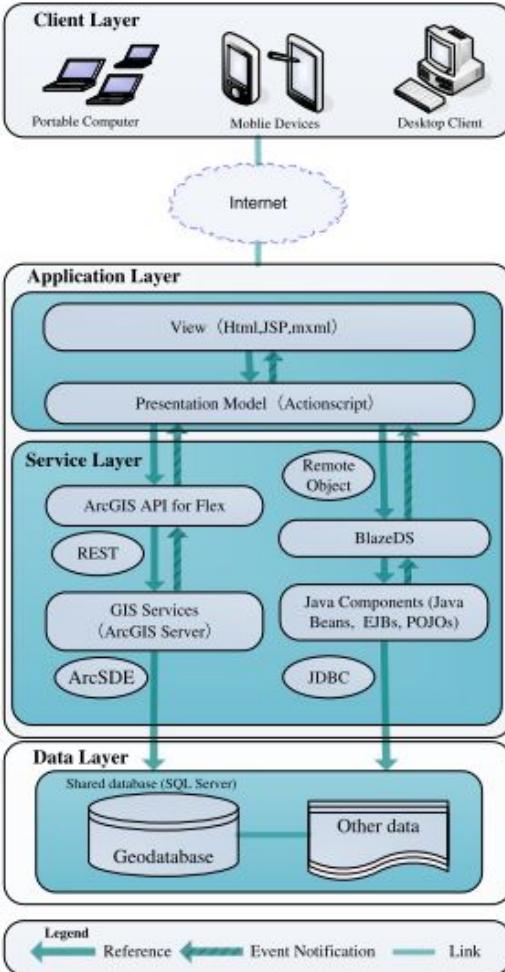
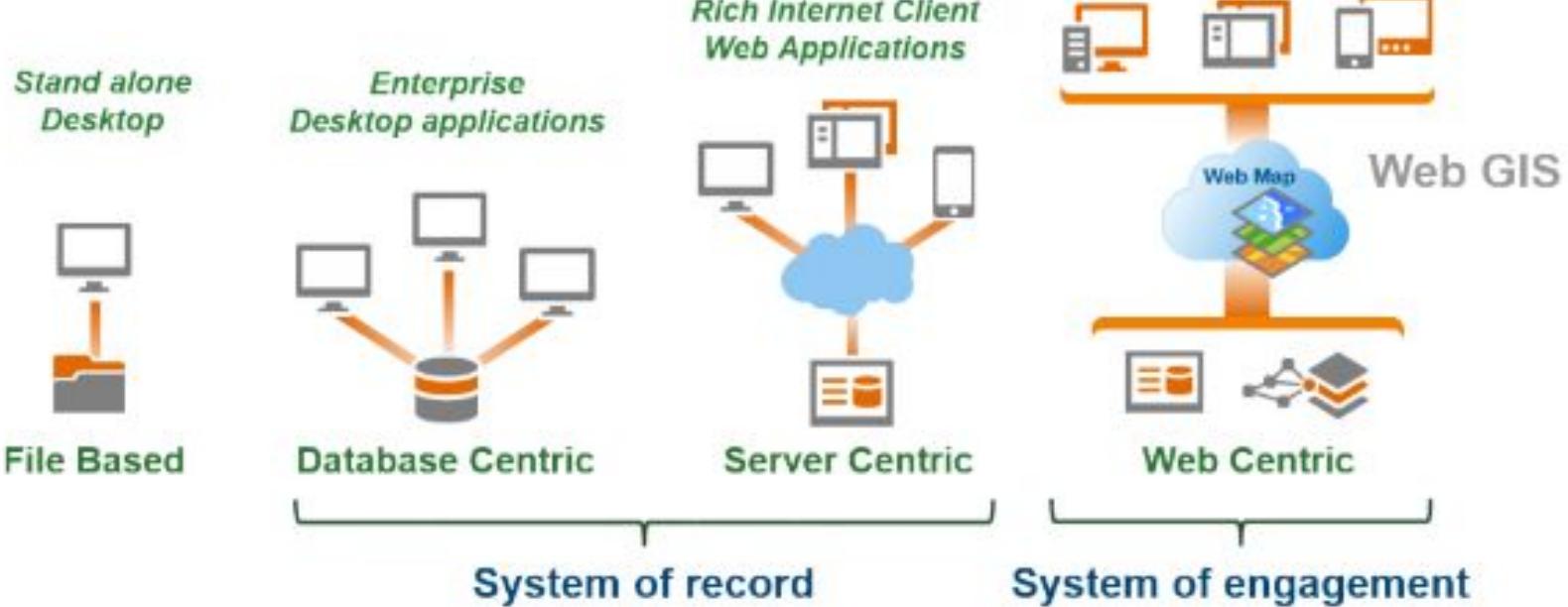


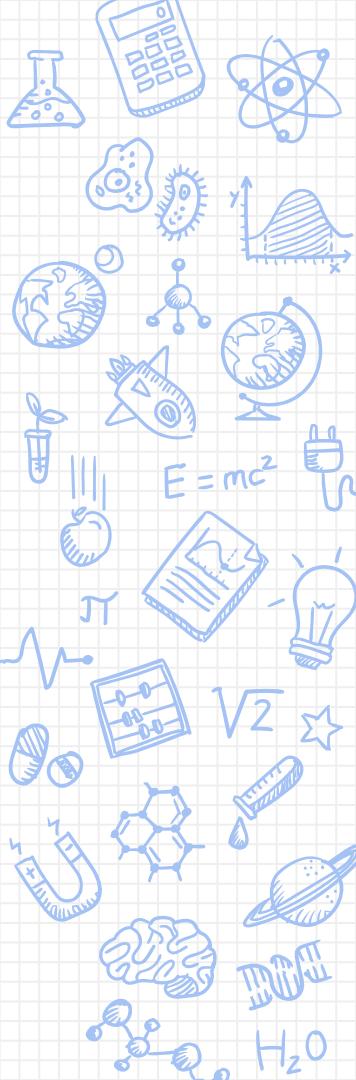
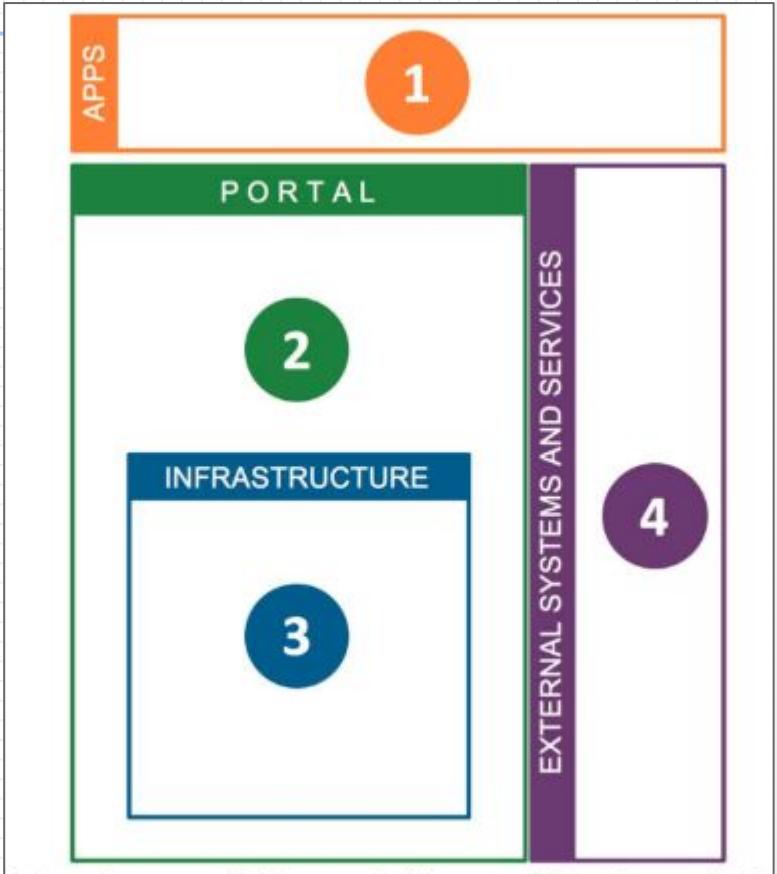
Fig. 3 Architecture of RGHIMS

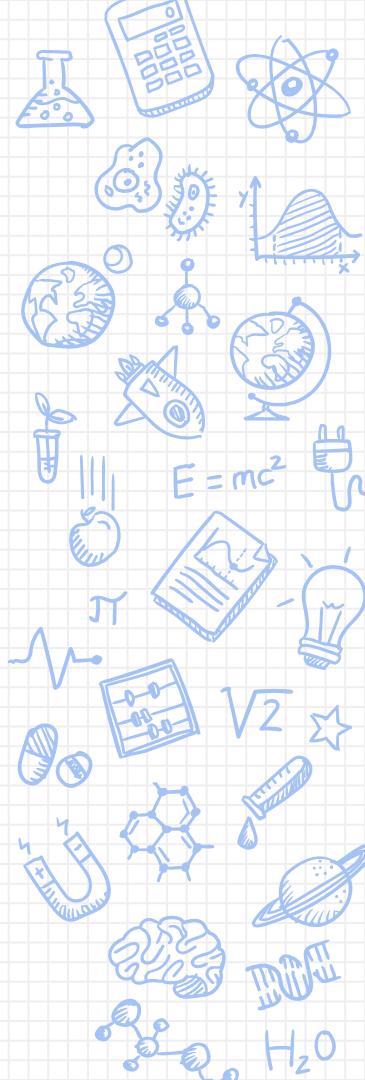
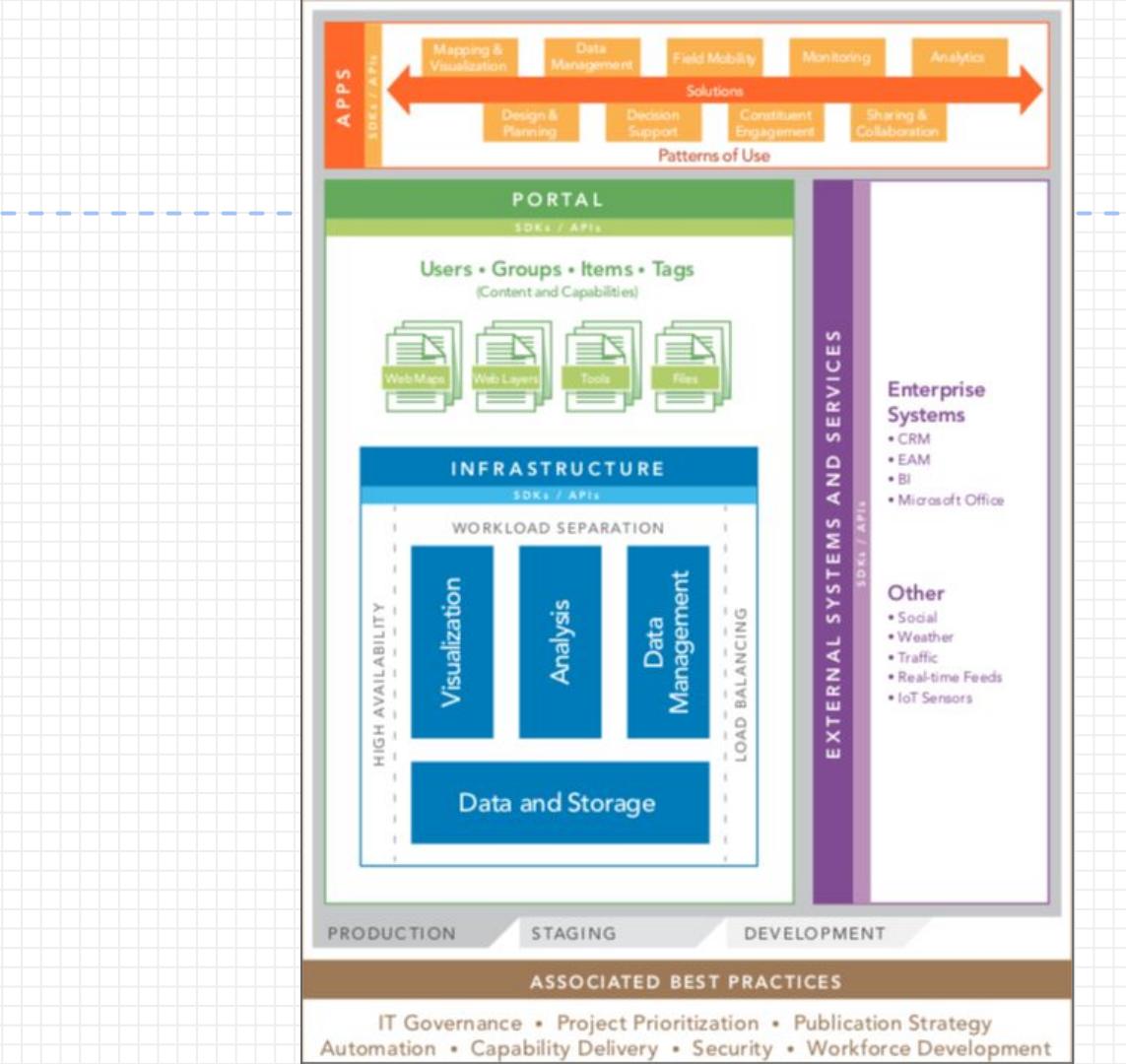


Web Apps
Sustainable shared Web Maps
Multiple client apps
- Commercial Apps
- Configurable Apps
- Solution Templates
- Custom apps

Architecting the AreGIS Platform: Best Practices

Arquitectura Conceptual





Architecting the ArcGIS Platform: Best Practices



There are eighteen best practice briefs associated with the ArcGIS Platform Conceptual Reference Architecture diagram.

Eleven of these briefs—including *Automation*, *Distributed GIS*, *Enterprise Integration*, *Environment Isolation*, *High Availability*, *Infrastructure*, *Load Balancing*, *Publication Strategy*, *Real-time GIS Strategy*, *Security*, and *Workload Separation*—reference technology practices that provide high-level implementation guidelines based on business needs.

Architecting the ArcGIS Platform: Best Practices

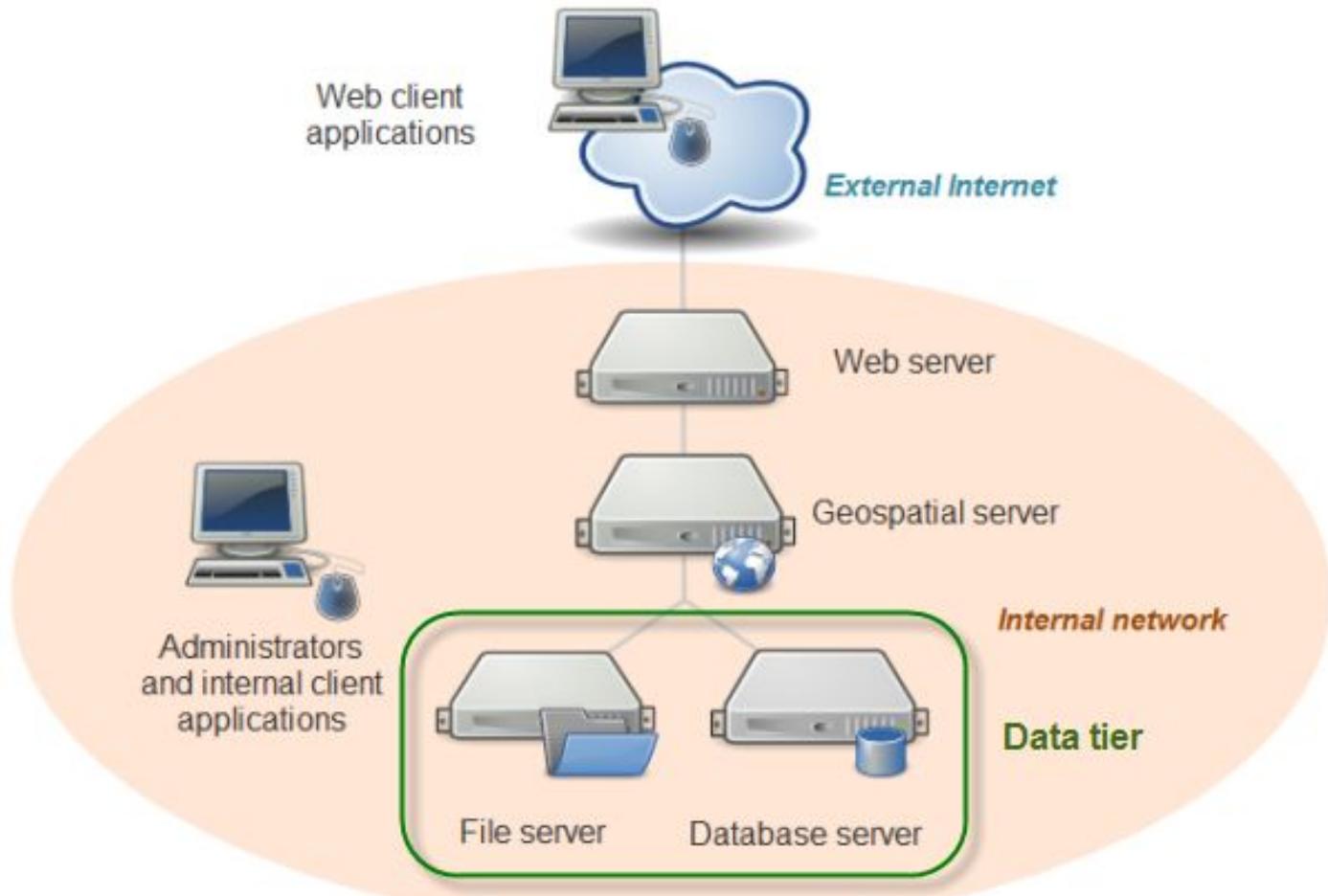
Following these best practices will help organizations meet requirements for performance, security, and availability. The best practice briefs for *Application Implementation Strategy*, *Capability Delivery*, *Patterns of Use*, *Managing Identities*, *Project Prioritization*, and *Workforce Development* focus on people and how they should interact with ArcGIS.

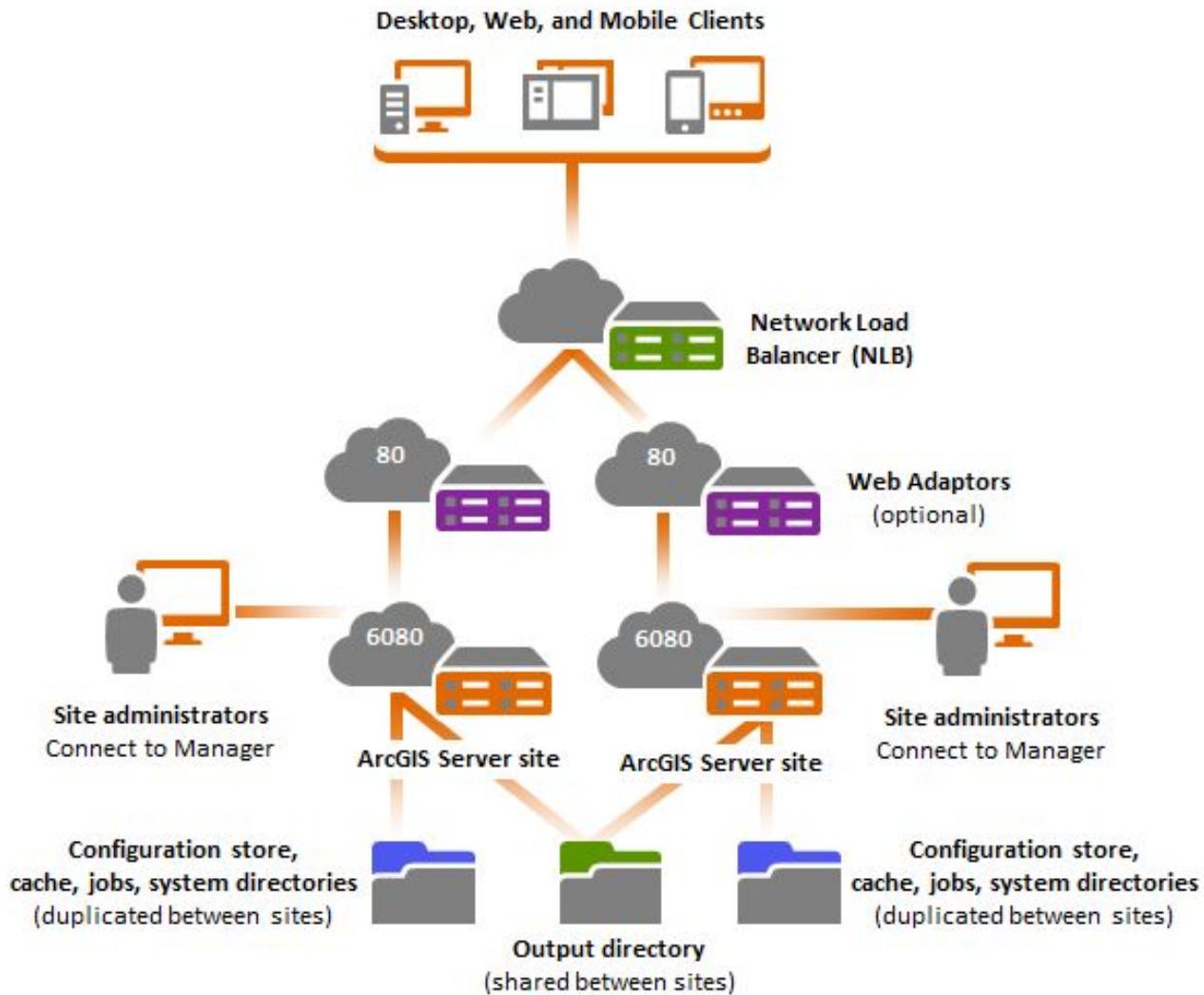


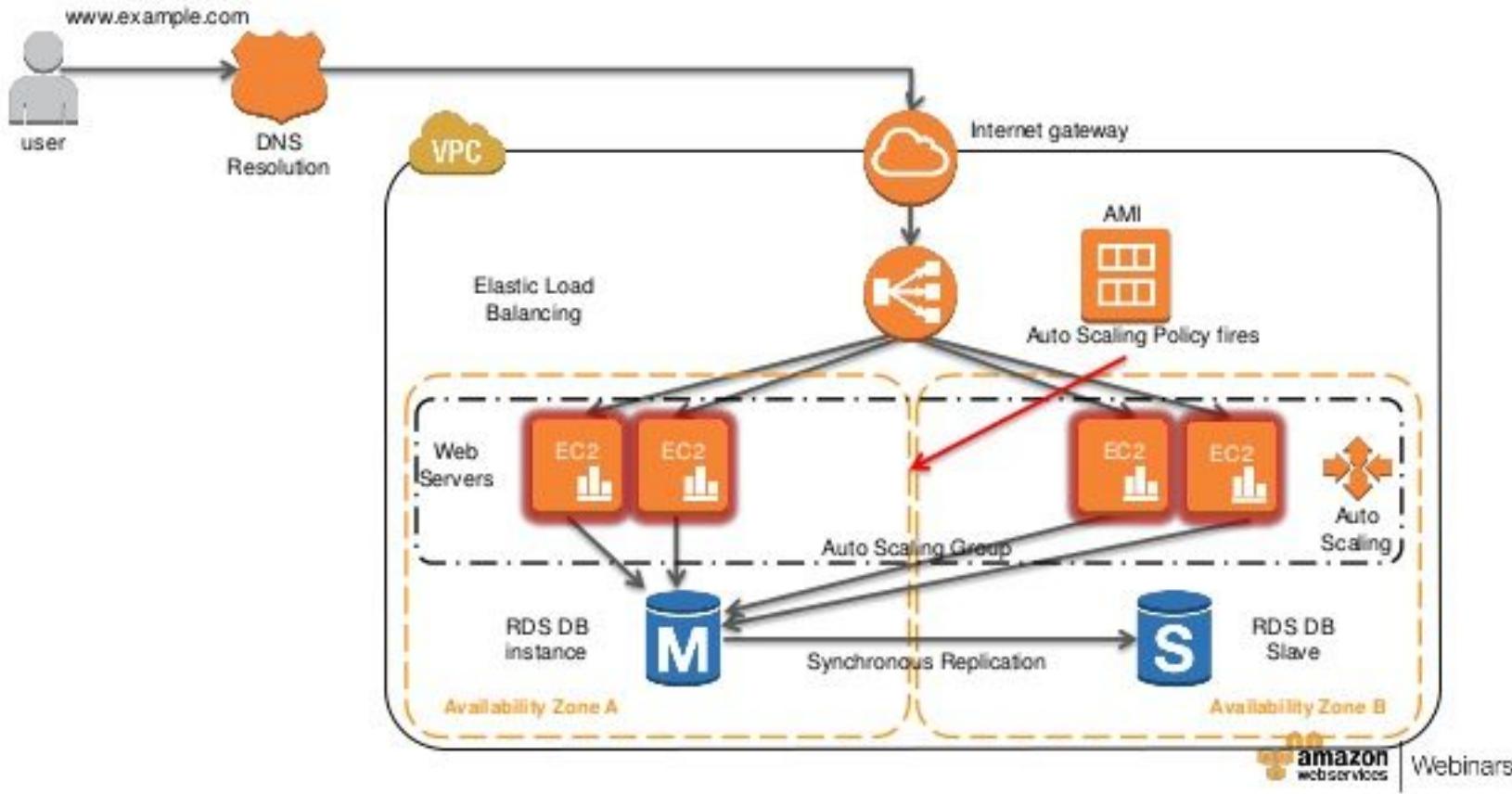
Architecting the ArcGIS Platform: Best Practices

Finally, the IT Governance brief offers a complementary process guideline that suggests ways to minimize risk, improve quality, and increase productivity around ArcGIS solutions.

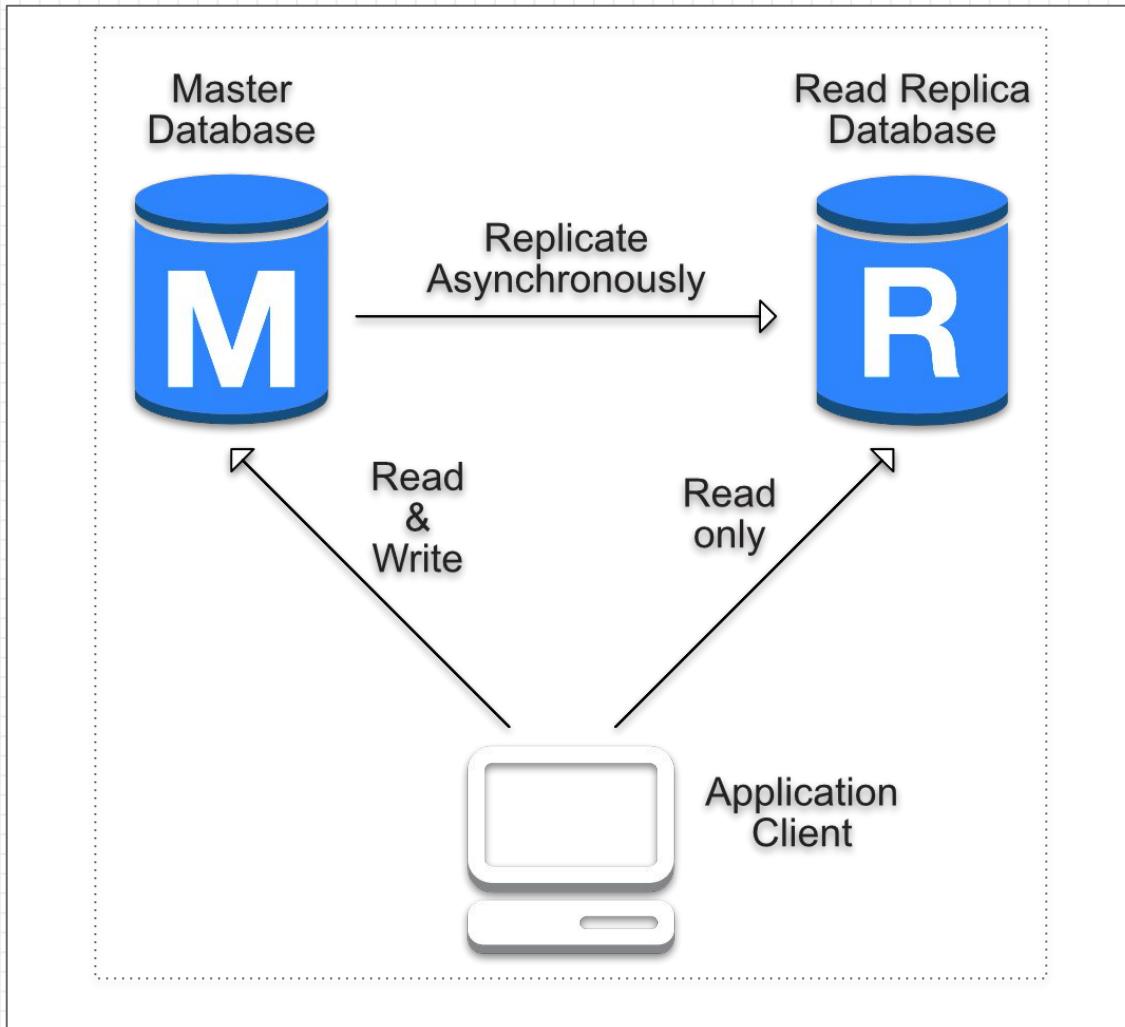




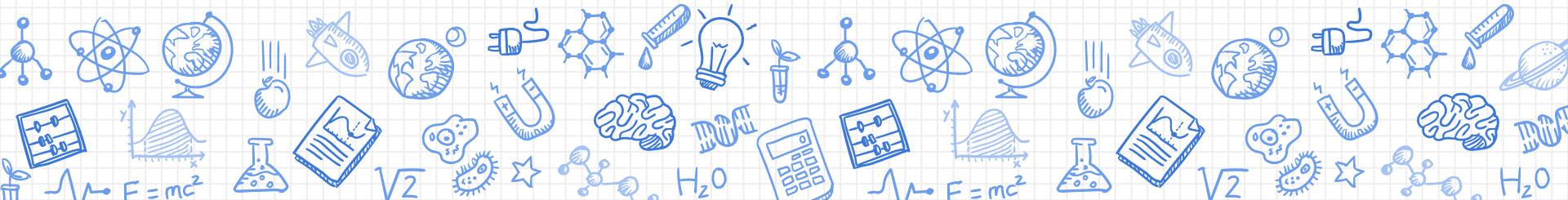




Webinars

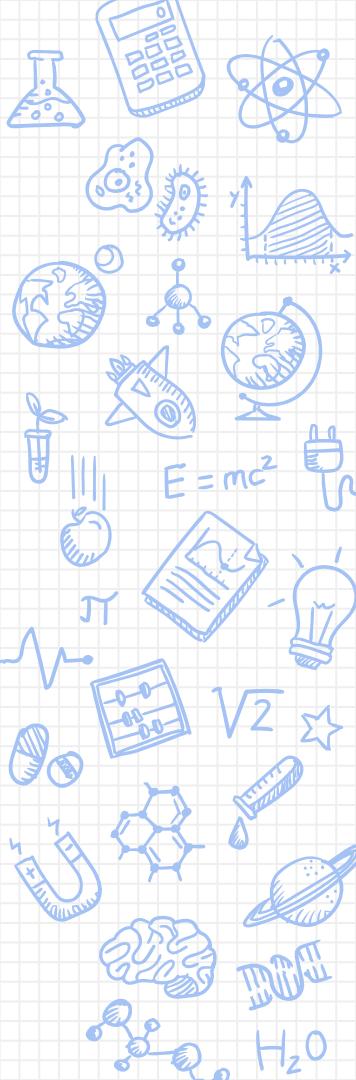


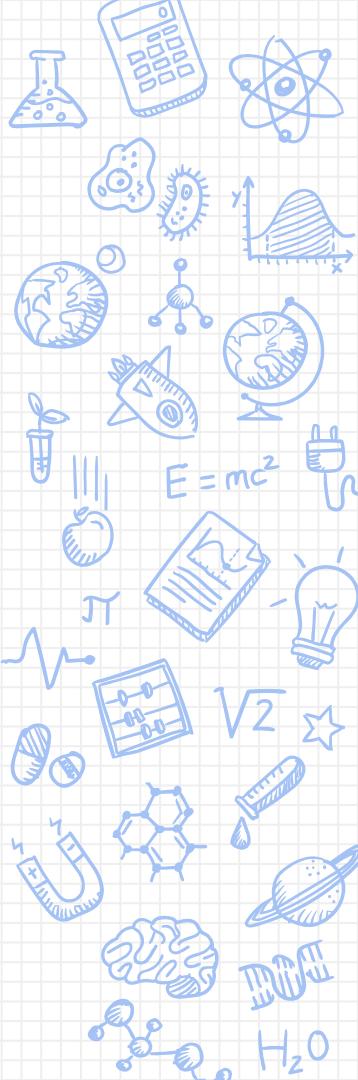
Discusión



Implementación de Geoservicios

- ✗ Experiencias?
- ✗ Software libre? Propietario?
- ✗ Retos?
- ✗ Lecciones aprendidas?
- ✗ Procesamiento?
- ✗ Desempeño?
- ✗ Disponibilidad?
- ✗ Calidad del Servicio?





Aplicaciones a Gran Escala

- ✗ Gran escala?
 - ✗ 10? 100? 1000? Usuarios
 - ✗ TBs?

Aplicaciones a Gran Escala

Netflix

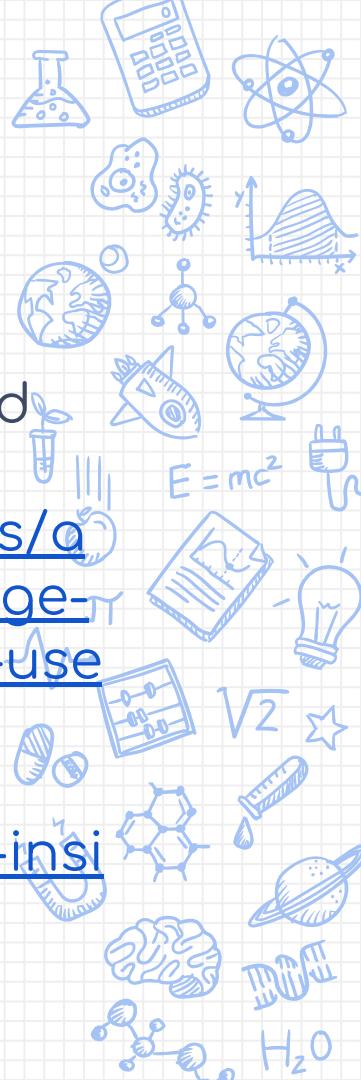
Web Scale
Applications
using
NetflixOSS
Cloud Platform

Netflix Scale

- 100s of Mid-tier services and applications
- Billions of Requests per day
- ~70 Billion Events per day
- 10,000s of Ec2 Instances in use in multiple AWS Regions/Zones
- Cassandra NoSQL database in a Global Ring spanning regions: Terabytes of data
- At peak consumes **~1/3 of US Internet Bandwidth**

Aplicaciones a Gran Escala

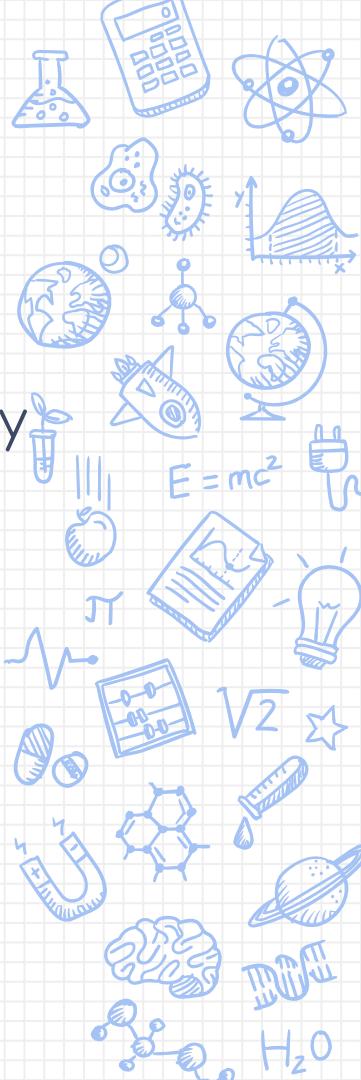
- ✗ AWS re:Invent 2016: How Mapbox Uses the AWS Edge to Deliver Fast Maps for Mobile, Cars, and Web Users Worldwide (CTD304)
<https://www.slideshare.net/AmazonWebServices/aws-reinvent-2016-how-mapbox-uses-the-aws-edge-to-deliver-fast-maps-for-mobile-cars-and-web-users-worldwide-ctd304>
- ✗ Carto: Inside - Out
<https://www.slideshare.net/xurxosanz/cartodb-inside-out>



Aplicaciones a Gran Escala

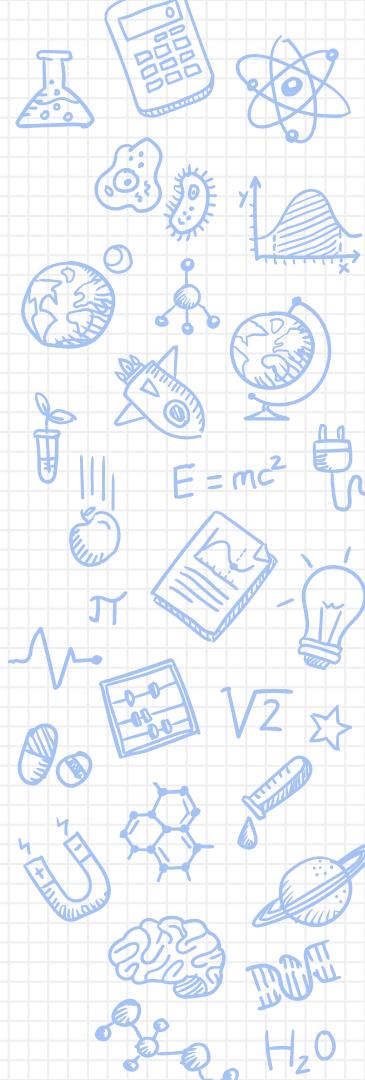
Uber

- ✗ How We Built Uber Engineering's Highest Query per Second Service Using Go
- ✗ <https://eng.uber.com/go-geofence/>



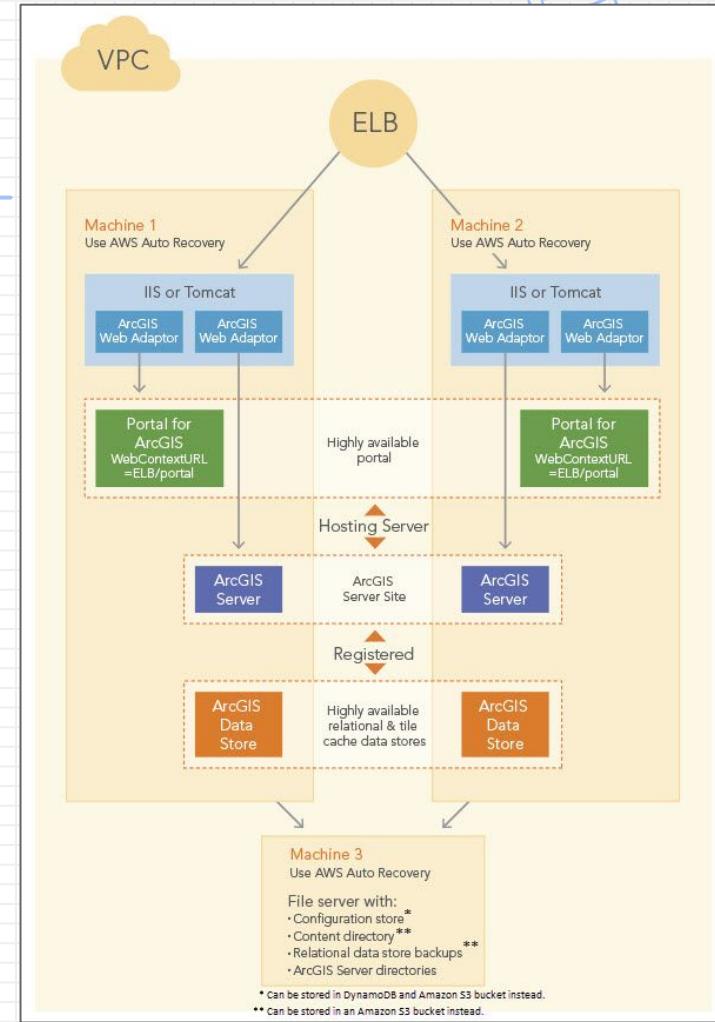
Tecnologías Relacionadas

- ✗ Cloud Computing?
- ✗ Big Data?

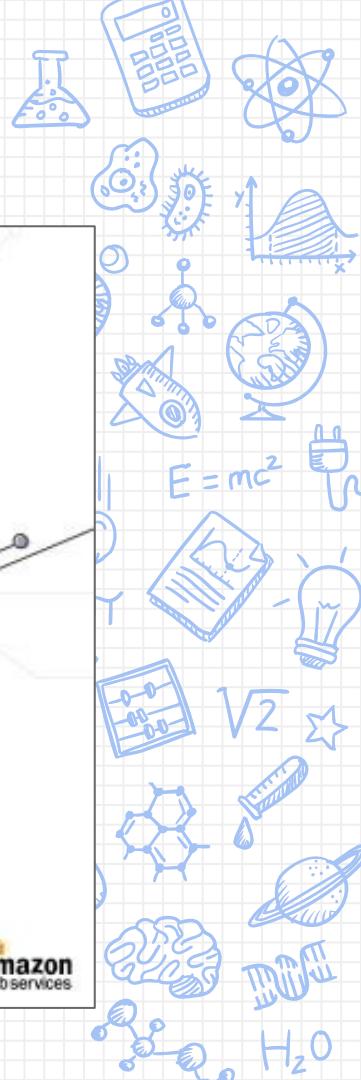


Implementación de Geoservicios - Cloud

X ArcGIS Enterprise architectures on Amazon Web Services



Implementación de Geoservicios - Cloud - Serverless GIS



What is serverless?

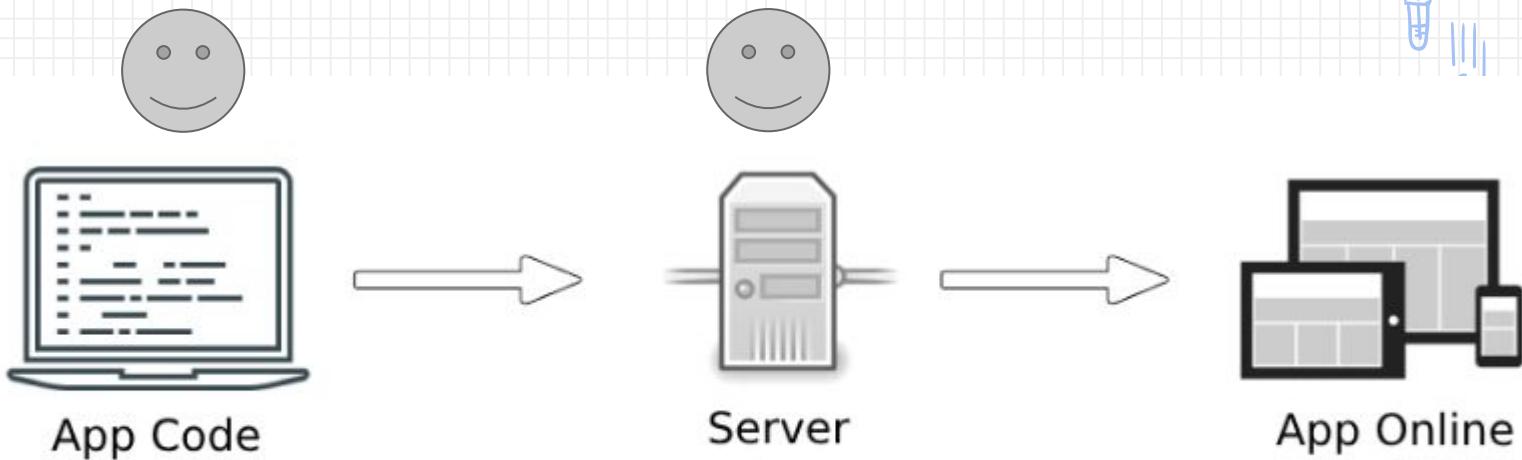
Build and run applications
without thinking about servers



Implementación de Geoservicios - Cloud - Serverless GIS

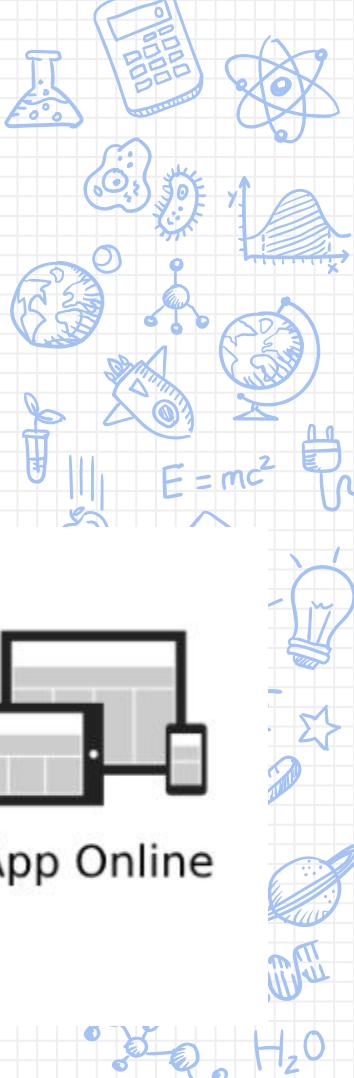


Forma tradicional



Simple traditional development process.

Implementación de Geoservicios - Cloud - Serverless GIS

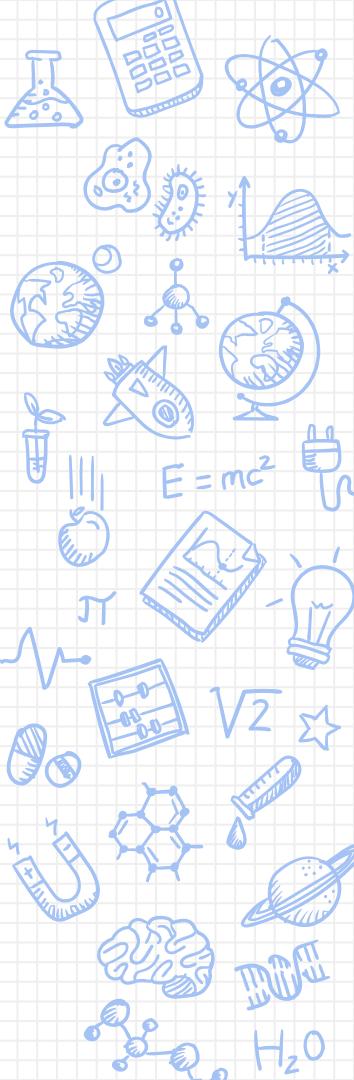


Forma “serverless”



Serverless development process



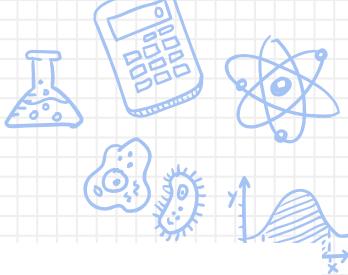


Implementación de Geoservicios - Cloud

Serverless GIS

Combining the power of AWS
Lambda and Rasterio

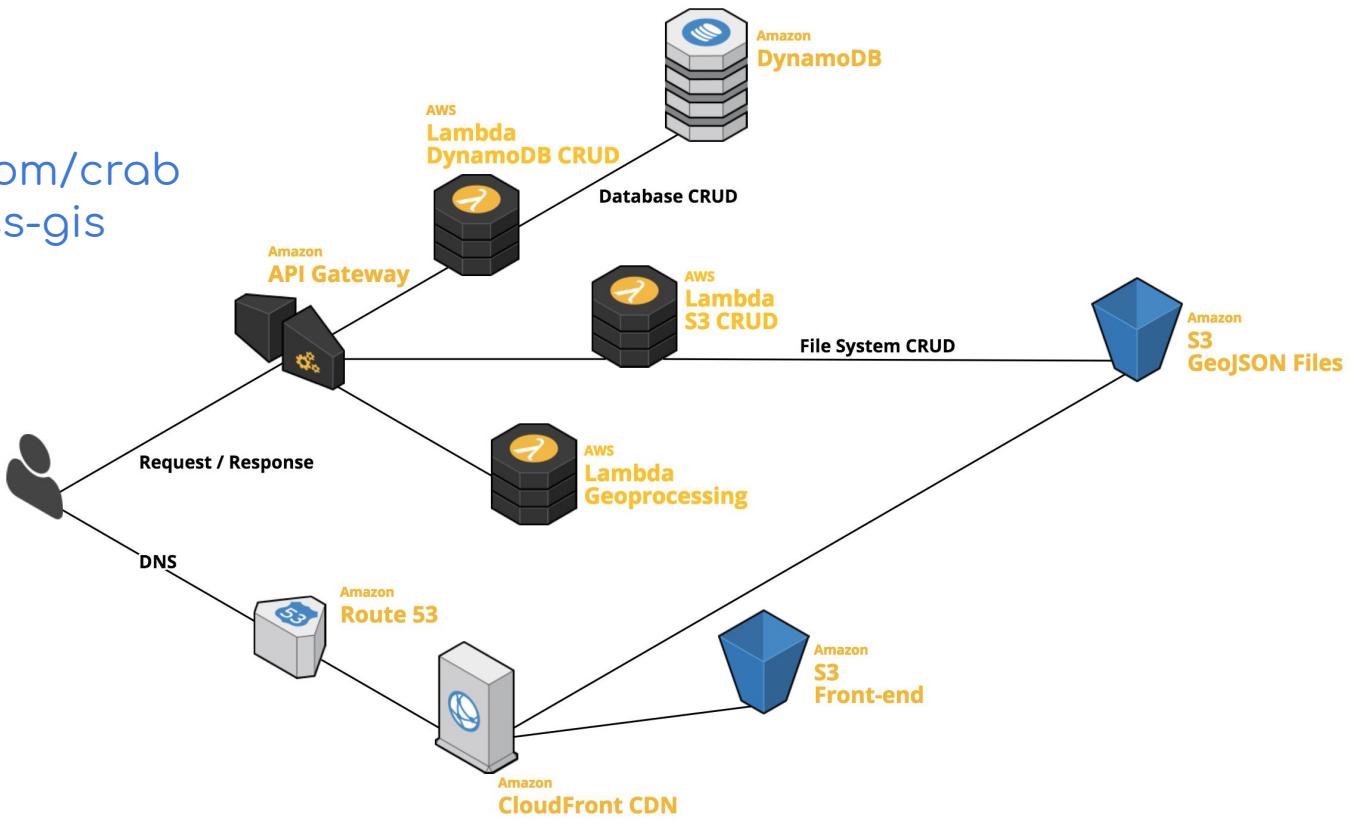




Implementación de Geoservicios - Cloud

Serverless GIS

<https://github.com/crabcanon/serverless-gis>



Serverless

Serverlesspatial

MapServerless
AWS Lambda
Layer

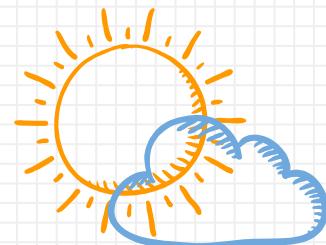
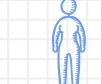
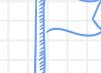
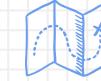
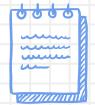
MapServerless Map

This is an example of MapServer running as an AWS Lambda Function. Is it awesome? Is it an abomination? You decide.

Serverless Deployment <https://github.com/bitner/mapserverless>

Mapserver AWS Lambda Layer <https://github.com/bitner/mapserverless-layer>





Gracias