Using ArcGIS for Server

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1. **Intro**
2. **ArcGIS for Server = Geospatial Apps Server**
3. **Map Services**
   - Publishing Flow
4. **Spatial Functionality Services**
   - Publishing Flow
5. **Consuming Services**
Location is Important  
the power of where
Location is Difficult

projections, processing, managing data...
Opportunity

Our Job: Turn complex into simple
...for your own organization
...integration into other applications

...for GIS community

...for everybody

Map Viewer vs WebGIS

WebGIS applications for...
FRONT END

Client-side SDKs and Apps

REST API

BACK END

ArcGIS Online

ArcGIS for Server
ArcGIS for Server

The Geospatial Apps Server
ArcGIS for Server
Geospatial Applications Server

Map Geospatial Applications Server
Serving Maps
Supporting Applications
  - Web, Mobile, Embedded
  - Through REST
  - Out-of-the-box Apps
  - APIs and SDKs
Serving geospatial functionality
  - Editing
  - Spatial Analysis
  - Routing
  - Geocoding
  - ...
How? Geoservices

The power of GIS exposed through webservices
Map Services
<table>
<thead>
<tr>
<th>Feature Service</th>
<th>Tiled Map Service</th>
<th>[Dynamic] Map Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Query</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Edit</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Performance</td>
<td>Very Fast</td>
<td>Fast</td>
</tr>
<tr>
<td>Change symbology</td>
<td>NO</td>
<td>Dynamic Layers</td>
</tr>
<tr>
<td>Config. Pop-up</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ArcGIS Server</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ArcGIS Online</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Recommended for</td>
<td>Base Info</td>
<td>Operational Info</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operational Info</td>
</tr>
</tbody>
</table>
Map Service Types
Publishing Map Services
Data Store Registration

Copying data

Publisher

ArcGIS Server

Publishing Patterns

Copying data

Publisher

ArcGIS Server

reference
data

reference
data

reference
data

managed
enterprise
gdb

Data Store Registration

Copying data

Publisher

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client-side or server-side rendering

ArcGIS for Server supports both
Client side graphics

Server side rendering

Diagram showing the flow of data between client and server in a web application context.
Server Side: Static vs Dynamic 

Static Content
- Static Appearance

Dynamic Content
- Dynamic Appearance

Tiled Services
- Static Content
- Static Appearance

Map Services
- Dynamic Content
- Dynamic Appearance

Map Services with Dynamic Layers enabled
- Dynamic Content
- Dynamic Appearance
Dynamic Layers
ArcGIS for Server

Flex
Silverlight
Javascript
iOS
Android
Windows Phone
Desktop

HTTP

ArcGIS for Server

REST API
Consuming map services

requests
responses

Files
File IO
SQL
Geodatabases
How? Geoservices

The power of GIS exposed through webservices
Spatial Functionality Services
Complex Information
Complex Processing
Simple Input

Actionable [simple] results
for users and for developers

the Sweet Spot  Good geospatial services
the Sweet Spot

Good geospatial services
### Types of services

<table>
<thead>
<tr>
<th>Service</th>
<th>ArcGIS for Server</th>
<th>ArcGIS Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geocoding</td>
<td>Custom</td>
<td>World Geocoding</td>
</tr>
<tr>
<td>Routing</td>
<td>Custom</td>
<td>World Routing + Traffic</td>
</tr>
<tr>
<td>Image</td>
<td>Yes</td>
<td>Base</td>
</tr>
<tr>
<td>Print</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Geometry</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GP tools</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Geo-enrichment</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Spatial Analysis</td>
<td>Yes (GP)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
GP Service
Watershed
How to access these services?
Using the one and only true language: REST

- REST API
- Services Directory
- SDK helper classes and methods
  - any platform
• Location is important, Location is difficult
• ArcGIS for Server is not a Map Server
• Good geospatial apps are
  • Interesting, rich, active, interactive
  • Use complex data, complex processing
  • Need simple inputs
  • Provide actionable and simple results
• ArcGIS for Server can serve
  • Maps, in many different flavours with different performance/functional trade-offs
  • Functional services
  • all of them through REST
• ArcGIS for Server - Map services
• ArcGIS for Server – GP services
• ArcGIS Online – Hosted Services
• ArcGIS Online – ESRI services
• REST API
• Fiddler Extension ArcGIS Server REST

Learning more developers.arcgis.com, resources.arcgis.com
Understanding our world.