Green Field Enterprise Web GIS Implementation at EnerVest
EnerVest Overview

25 year history
6.5 Million acres
~1 BCFE/day production
~7 Billion in managed assets

28 field offices
800 field employees
400 office employees
33,000 wells in 15 states
GIS Evolution at EnerVest

2008 2014 2017
Deployment Model

SaaS
- ArcGIS Online (Portal)
- ArcGIS Online (Hosted Servers)
- ArcGIS Online Services

On-premises
- Portal for ArcGIS
- ArcGIS for Server
- ArcGIS Data Appliance
### VMware Server Environment

**Production Environment**

<table>
<thead>
<tr>
<th>Prod</th>
<th>SQL</th>
<th>AGS</th>
<th>Portal</th>
<th>WebApp</th>
<th>GeoEvent</th>
<th>License</th>
<th>FME</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>GB Ram</td>
<td>64</td>
<td>64</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>8</td>
<td>64</td>
<td>280</td>
</tr>
<tr>
<td>GB SSD</td>
<td>2000</td>
<td>500</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>500</td>
<td>3450</td>
</tr>
</tbody>
</table>

**Test Environment**

<table>
<thead>
<tr>
<th>Test</th>
<th>SQL</th>
<th>AGS</th>
<th>Portal</th>
<th>WebApp</th>
<th>GeoEvent</th>
<th>Monitor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>GB Ram</td>
<td>64</td>
<td>64</td>
<td>32</td>
<td>16</td>
<td>32</td>
<td>8</td>
<td>216</td>
</tr>
<tr>
<td>GB SSD</td>
<td>2000</td>
<td>500</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td>3050</td>
</tr>
</tbody>
</table>

**Development Environment**

<table>
<thead>
<tr>
<th>Dev</th>
<th>SQL</th>
<th>AGS</th>
<th>Portal</th>
<th>WebApp</th>
<th>GeoEvent</th>
<th>Monitor</th>
<th>FME</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>GB Ram</td>
<td>32</td>
<td>32</td>
<td>16</td>
<td>16</td>
<td>32</td>
<td>8</td>
<td>64</td>
<td>200</td>
</tr>
<tr>
<td>GB SSD</td>
<td>2000</td>
<td>500</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td>500</td>
<td>3550</td>
</tr>
</tbody>
</table>

**Total Resources:**
- 95 Cores
- 696 GB RAM
- 10 TB SSD Storage
Technical Challenges

- Need to use HTTPS for future-proofing and security
  - Large portion of publicly available map services are HTTP only
  - Servers come without IIS or web certificates installed
  - If web certificates aren’t configured properly end users freak out
Technical Challenges

Must maintain existing map services
- Existing web apps need to function while building out new system
- Embedded WMS links in all other software are cumbersome to update
- Created aliases for all server names moving forward
  - http://hdc-ags01p.enervest.net
  - https://mapservices.enervest.net
- Ran scripts to update addresses in all applications

Other software with maps only consume WMS format
- Kingdom, Spotfire, & Transform when we started the project
- Two items in the Portal for each service with WMS enabled
- Services must be shared with everyone for WMS consumption
Welcome to the EnerVest GIS Portal!

Here you have access to all of the corporate GIS resources in one place. Browse the gallery to find PDF asset maps, links to WMS layers, or map services to stream the most current data from the GIS Database into your own map.
EnerVest GIS Portal Featured Content

Show:
- All
- Maps
- Layers
- Scenes
- Apps
- Tools
- Files

- 1Derrick - Gulf Coast Deals
- DI Permits
- Pipeline Facilities
- Asset Map - Permian

- Asset Map - Rockies
- DI Eagle Ford Trend
- ARIES Archive
- 1Derrick - Eastern Deals in Play (DIP)

- Charleston Utica
- Rockies Leasehold
- IHS Wells
- Appalachia Asset Area Contacts
Key Partnerships for Success

- ESRI Enterprise Advantage Program
  - Technical Advisor is invaluable for project management support and bug workarounds

- LOGIC Solutions Group
  - Expertise in FME, JavaScript, Web Security, Server Architecture
Next Steps

- Demo to all existing GIS users

- Hands-on Training
  - Half day class for all Portal users

- ArcGIS Pro Training
  - Two day class for Publishers w/ large datasets
  - Users who need to make large format PDFs
  - Anyone who currently uses ArcMap

- Upgrade from 10.4.1 to 10.5.1
  - Need to upgrade yearly to take advantage of the fast paced development and increased functionality
  - Begin testing Insights for ArcGIS
Questions?