ESS Web Beta 1.0 Status

August 9th, 2018

Shea Broussard - Presenter
Michael Oesterle, PhD, PE
David Bianchi, GISP
ESS Desktop’s Biggest Problems:

- Data resides on individual user’s computers

- ESS requires an ArcGIS license per desktop, which adds license costs, certification and accreditation cost for each military service, and can limit ESS usability depending on approval and funding limitations.

- Antiquated code repositories.
Web-Based ESS Benefits

- Removal of user requirement to have a local copy of ArcGIS
- Centralized storage to ensure data integrity and standardization.
- Enhanced collaboration among multiple users
- Platform for site plan submission and approval process
- Simplified IA compliance across multiple Military Services
- Accelerated product deployment
- Load balanced and scaling capacity
- Capability to access enterprise data
Schedule

- **October 2015**: DDESB / EXWC partnered with DISDI for Hosting:
- **April 2016**: Project requirements defined.
- **September 2017**: Task order awarded
  - Initial design of Web-based ESS V. Beta 1.0 & V. 1.2 requirements defined
- **December 2018**: ESS web broke ground
  - Re-write of key ESS features
  - Four to five spiral development with evaluation periods
- **March-June 2019**: ESS Web v1.2 Capable of generating and submitting site plans
  - Repository for NEES data
- **TBD**: Web-Based ESS v1.3 and beyond
  - RBESS- Tier 1, 2a, and 2b
  - Automation of GIS, RPI, and PES data updates
  - Re-work site approval process
Collaboration with DISDI

• **Solidified in Late 2017;** DDESB / EXWC partnership with DISDI:

  • DISDI currently host ESS application within DISDI Dev Portal

  • The host site is Amazon Web Services. Gov. Cloud

• Pursuing accreditation that includes ESS being bundled with the existing DISDI accreditation.
Welcome!

The Explosives Safety Siting Application automates the calculation and display of Explosives Safety Quantify Distance (ESQD) arcs for explosives storage or handling sites and assist with the development of the site plan packages.

Select one of the options in the left column.
ESS
Explosive Safety Siting

Web Hosting Architecture
Technical View

ESS User
https

Load balancer

App Servers

ESS Login

DOD Consent Banner

Authentication

User Rights / Assignment

ESS Web Interface

Tool interface

ESRI Basemaps

GIS Tasks
Window Server

AGSE
Web Adaptor

AGSE Federated
Non-Hosted
Server Stack

Data Base
File Share Storage device

Workload Tasks
Linux Red Hat

Workload
Servers

App01

App02

App03

App04

Data Base
File Share Storage device

REST, Image server, AGSE Manager

WebAdapter01
AGSE Fed, Non-Hosted

WebAdapter02
AGSE Fed, Non-Hosted

ArcGis01
AGSE Fed, Non-Hosted

ArcGis02
AGSE Fed, Non-Hosted

ArcGis03
AGSE Fed, Non-Hosted

ArcGis04
AGSE Fed, Non-Hosted

Windows Server

Linux Server

Docker:
App Cache
Message Buffer
Workload Services
QD Calculator
Data Model
Web ESS Dataflow

Scenario 1 - Single User Edit

User begins data edit with copy of master

User edits data

User submits change for review

Admin approves changes and merges data with master

Master Data

ESS Data Timeline
Web ESS Dataflow

Scenario 2 - Multiple User Edit

User 1 begins data edit with copy of master

User 2 begins data edit with copy of master

User 1 edits data

User 2 edits data

User 2 is alerted of changes and updates with User 1 data

User 2 continues edits with updated data

User 1 merges data with master

User 2 merges data with master

Master Data

ESS Data Timeline
Web ESS Dataflow

Scenario 3 - Tiered Analysis

User edits data and generates multiple tiers of data (e.g., each tier has different NEW limits)

Tiered Data is held constant

User changes data

Common data changes are merged with master

Changes to master are incorporated to tiers

Common data changes are merged with master

Master Data

Master Data changes (e.g., GIS update)

ESS Data Timeline
Welcome Back!
Pick an installation above to work on, or navigate the map to locate one.
DATASET: Alameda, CA

SUMMARY

TOTAL NEW (LBS) 1,859,000
EXPLOSIVE SITES 640
BARRICADED 60
PES-ES RELATED 45
VIOLATIONS 250
MITIGATED 12
TOTAL FACILITIES 1230

SITE PLAN ANALYSIS

MITIGATION MEASURES 96
SITE PLANS CREATED 30
SITE PLANS APPROVED 12
SITE PLANS WAITING TO BE APPROVED 6
SITE PLANS NOT APPROVED 4

DATA SOURCE: Alameda, CA
Facility Number: 1036
Facility Name: OPR LOC
Facility Description:
Typecode: AGM
Last Modified: 6/14/18

Related PES: 3
Related ES: 5
Barricades: 2
QD Analysis Results
Display ARC Results
Violations: 12
Mitigations: 3
Submittal Package Items: 6
Admin
Attachments: 4

Acid Hazard Class/Div
Remove Hazard Class/Div
Set New Values to DQ Results

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<th>Quantity (Operational)</th>
<th>DQ Result</th>
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MOE:
HFD xx
Fragmenting Item:
Facility Number: 1036
Facility Name: OPR LOC
Facility Description:
Typecode: AGM
Last Modified: 6 / 14 / 18

DETAILS
NOTES
EXPLOSIVES
RELATED PES: 3
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Web ESS Status

• Notable achievements:
  ▪ Host site at Amazon Secure GovCloud established through DISDI Portal
  ▪ GIS mapping and editing developed
  ▪ Facility editor developed
  ▪ Spatial and QDE analysis near completion

• Web-Based ESS v1.2 planned for June-September 2019
  ▪ Capability to generate and submit site plans

• Web-Based ESS v1.3 and beyond
  ▪ RBESS- Tier 1, 2a, and 2b
  ▪ Automation of GIS, RPI, and PES data updates
  ▪ Electronic site approval process
Questions?

ESS Support Points of Contact:

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Mike Oesterle</td>
<td>Project Manager</td>
<td><a href="mailto:michael.oesterle@navy.mil">michael.oesterle@navy.mil</a></td>
<td>805-982-3398</td>
</tr>
<tr>
<td>Dave Bianchi</td>
<td>GIS Team Lead</td>
<td><a href="mailto:david.bianchi@navy.mil">david.bianchi@navy.mil</a></td>
<td>805-982-1607</td>
</tr>
<tr>
<td>Jeremy Franklin</td>
<td>GIS Team</td>
<td><a href="mailto:Jeremy.franklin1@navy.mil">Jeremy.franklin1@navy.mil</a></td>
<td>805-982-3723</td>
</tr>
<tr>
<td>Michael Matisek</td>
<td>GIS Team</td>
<td><a href="mailto:michael.matisek@navy.mil">michael.matisek@navy.mil</a></td>
<td>805-982-1221</td>
</tr>
<tr>
<td>Shea Broussard</td>
<td>GIS Team</td>
<td><a href="mailto:Shea.Broussard@navy.mil">Shea.Broussard@navy.mil</a></td>
<td>805-982-3416</td>
</tr>
<tr>
<td>Ruby Domingo</td>
<td>GIS Team</td>
<td><a href="mailto:ruby.domingo@navy.mil">ruby.domingo@navy.mil</a></td>
<td>805-982-4826</td>
</tr>
<tr>
<td>Steven Willis</td>
<td>GIS Team</td>
<td><a href="mailto:steven.willis1@navy.mil">steven.willis1@navy.mil</a></td>
<td>805-982-1452</td>
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