APAN ArcGIS Portal Governance

A MAP-CENTRIC CONTENT MANAGEMENT SYSTEM ENABLING USERS TO VISUALIZE THEIR DATA GEOGRAPHICALLY.

Document**Version 3.1**

Author: Noel Perkins / Ryan Waller 8/11/2023
Approval: Tim Mehlhorn

Version	Editor	Date	Comments
1.0	Karen Volarich	11/13/2018	
1.1	Ryan Waller	11/27/2018	
1.2	Karen Volarich	11/28/2018	Added graphics and responded regarding Group Manager role
1.3	Karen Volarich	12/4/2018	Add size limitations for uploads
1.4	Ryan Waller	12/6/2018	Added Roles and Privileges table and removed individual paragraphs for same. Added figures and table numbers. Formatting updated.
1.5	Ryan Waller	12/12/2018	Added further info regarding roles. Added process for suspicious users.
1.6	Karen Volarich	12/13/2018	Updated Roles & Privileges
1.7	**Ryan Waller**	**1/23/19**	**Added HTML code to Section 7.1**
2.0	Ryan Waller	4/23/20	Updated Screenshots and data for version 10.7.1
2.1	Karen Volarich	5/7/2020	Updated content and added screenshots
3.0	Ryan Waller	8/23/2022	Updated to reflect new version (10.9.1), revised for conciseness
3.1	Ryan Waller	8/11/2023	Updated to reflect new version (11.1), revised CUI link, updated languages

Contents

01

Background

ArcGIS Enterprise is a one-stop-shop for dynamic geographic information systems data creation, editing, and spatial analysis.

ArcGIS Enterprise is comprised of ArcGIS Server, Portal for ArcGIS, and ArcGIS Data Stores (relational, tile, and spatiotemporal big data). There are two virtual Windows 2019 DataCenter web servers setup with fail over and load balancing capabilities. Fail over is setup in case one of the two servers goes offline. Load balancing is setup to handle a high-volume of transactions. Behind the web servers are: (5) virtual Windows 2019 servers, (2) hosting Portal for ArcGIS, ArcGIS Server base installation, and ArcGIS Data Store (Relational and Tile). These are also setup with fail over and load balancing capabilities.

ArcGIS Data Stores are PostgreSQL databases that are automatically configured upon installation of the software.

- Relational data stores are for storing feature layer data.
- Tile data stores are for storing tile layer data.
- Spatiotemporal data stores are for stor-ing “big data” for complex spatial analysis and streaming data.
- Feature layers are trans-actional and are comprised of vector data for editing.
- Tile layers are images of maps at various scales, these are primarily used for large, complex polygon data types, such as basemaps. ArcGIS Data Stores are managed via ArcGIS Server.

ArcGIS Server is the backbone behind Portal for ArcGIS. These two products are federated and setup with a hosting server so that users can publish data via Portal that is stored in ArcGIS Server. Portal for ArcGIS has configuration files that point to the data located within ArcGIS Server.

The current configuration for ArcGIS Enterprise has all software installed on each of the virtual servers, but the content is stored across AWS S3 buckets and AWS DynamoDB. Scheduled, automated backups of the disk drives are performed daily.

02

Access

Users can be granted access to ArcGIS Enterprise (Portal) by submitting a request via the ServiceNow site. Important to remember:

- **Users must have an existing APAN account to be added to Portal.**
- **New users can be added as a Viewer prior to attending Publisher Training. This will provide an opportunity to gain familiarity prior to training.**

2.1 Inactivity

User accounts will be purged from the system after 120 days of inactivity. If a user has data, maps, or applications associated with their account, ownership will be transferred to another user or to the KM associated with that area of responsibility.

Users who have accounts and have never logged in, will be deleted from Portal after not having logged in after 60 days after creation of user account.

If a user account has been deleted from community.apan.org, the Portal account will also be deleted. However, deleting an account from Portal does not delete the account from community.apan.org so users will still have access to the other APAN platforms.

2.2 Suspicious Users

User accounts that appear to be conducting suspicious activities will be reported to the Technical Director for further action.

03

Roles\Permissions

There are two types of licensed accounts within Portal, Creator and Viewer. Within those account types are roles;

3.1 Accounts

Viewer account **license**

- Unlimited number of accounts can use this type of account.
- Members with Viewer access can view content shared with them, but CANNOT create, own, or share content.
- Viewer Role – Used when data, maps and apps are shared with the Organization or Groups and are not able to be viewed outside of being a named user.

Creator accounts license

- There is a finite number of users that can use this type of account.
- Members can view, create, and share content.
- Roles include:
  - Viewer – for use in CUI Approved and Private Groups
  - APAN User – Limited editing abilities, used within CUI-approved Groups
  - Publisher – Most commonly used role for creating maps, data items, and applications
  - Group Manager – This role is used for CUI-approved Group Owners
  - Power Publisher – Used internally for APAN Staff
  - GIS Product Owner – Used internally for APAN Staff
  - Administrator – Used internally for APAN Staff

3.2 Data Responsibilities

It is the responsibility of the GIS Product Owner and Power Publishers to support the GIS APAN user community with troubleshooting issues.

04

GIS Data Types & Formats

ArcGIS Enterprise supports a variety of data formats. Depending on the data format, there may be additional work performed to have the data display properly on the map or for creating web applications. There are different data formats supported depending upon whether the data is added via the map interface or via content interface.

4.1 Data Formats — Map Interface

- Shapefile – native Esri data format, simple geospatial features, no topology
- CSV or TXT files with optional address, place, or coordinate locations – must be present to view on the map
- GPX – GPS exchange format – usually created via Trimble, or other major GPS receivers
- GeoJSON – open standard format for simple geographical features

4.2 Data Formats — Content Interface

- Creator License holders can **add** the following **items from your computer**:
  - Shapefiles (zipped) Publish Hosted Feature Layer
  - File Geodatabases (zipped) Publish Hosted Feature Layer
  - images (png, jpg, etc.) for use as symbols, etc.
  - CSV or Excel files
  - KML\KMZ files (KMZ files can be uploaded\downloaded but not viewed in the Map Viewer – only KML files can be viewed in the Map Viewer. KMZ files can be added to map viewer ONLY if they are URLs hosted elsewhere).
  - GeoJSON files
  - Service Definition files Publish Hosted Feature Layer or Tile Layer

4.2 Data Formats — Content Interface *continued*

- Creator License holders can the **add** the following **items from the web**:
  - ArcGIS Server Web Service (must have “map service” in the URL)
  - Web Mapping Service (WMS) – Open Geospatial Consortium standard
  - Web Mapping Temporal Service (WMTS) – Open Geospatial Consortium standard
  - Keyhole Markup Language (KML)
  - Web Feature Service (WFS) – Open Geospatial Consortium standard
  - Document
  - Create Feature Layer from existing URL - must have “feature service” in the URL

- Creator License holders can **add** the following **applications**:
  - Web Mapping
  - Mobile
  - Desktop
  - Application
  - Application Extension (Operations Dashboard)
  - Application Extension (Web AppBuilder)
  - Create Feature Layer from existing URL - must have “feature service” in the URL

4.3 File Considerations

- **KML Limitations**
  - The following elements do not display on a map: regionated KML, view-based and time-based refresh parameters, regions inside network links, and screen overlays.
  - Ground overlays and network links without refresh properties do not print.
  - Image overlays that cover large areas may appear distorted.
  - By default, there is a 30-minute cache delay in displaying updates to the KML layer. If the layer contains refresh parameters of less than 30 minutes, the shorter interval is honored. If a refresh interval is set on the layer, the refresh interval is honored.
  - KML layers cannot be used as a basemap.
  - You can set the visible range for KML layers in Map Viewer, but you cannot set the visible range for KML layers in Map Viewer Classic.
  - KML layers cannot be reordered in the map contents.
  - Configuring pop-ups is not supported in KML layers. Any feature data in the layer is automatically displayed in pop-ups; you cannot configure or disable them.
  - Inline styles are not supported when displaying pop-ups in KML layers.
  - If the portal website is installed on the same network as a KML layer, the KML layer will be accessible in the portal website; otherwise, internal KML layers are not supported.
  - KML layers larger than 10 MB cannot be added to maps.
- **Shapefiles**
  - Compression formats other than a .zip archive are not supported.
  - When you create a .zip file that contains the .shp, .shx, .dbf, and .prj files that comprise the shapefile, store your shapefile directly in the root (the central directory) of the .zip archive, not in directories within the archive. If your .zip file viewer shows path information, the path should be blank.
  - The shapefile must contain valid geometries. If you have ArcGIS Pro, you can use the Repair Geometry geoprocessing tool to correct invalid geometries in shapefiles. Invalid geometries cannot be published or drawn in Map Viewer Classic.

4.3 File Considerations *continued*

- CSV / Text Files
  - The more address fields you include, the more accurate your geocoding results will be. For example, address and ZIP Code will yield better results than just address.
  - The address field can contain multiple parts of an address (sometimes called single-line geocoding).
  - When you add a CSV file directly to Map Viewer Classic, field types are set automatically and cannot be changed. If you need to change field types, publish your CSV file as a hosted feature layer and define the field types when you publish.
  - Map Viewer Classic may not be able to create a layer from the file if the file contains more spaces than separators in the field names (the first line of the file). Remove some spaces in the field names and try adding the file again.
  - Order and case does not matter (for example, you could have 519 East 86 Street, New York, NY, 10028 or new york,10028,519 east 86 street,ny). However, every row in the file must follow the same order.
  - When you add a CSV or TXT file with coordinate information or addresses while signed in, 4,000 rows can be added directly to the map. CSV and TXT files with more than 4,000 rows must be published as a hosted feature layer.
  - If your data contains non-English characters, for example, characters specific to the French, Russian, Greek, Japanese, or Arabic alphabets, the file you import must be encoded as Unicode or UTF-8, and not ASCII. If you import an ASCII-encoded file containing non-English characters, it may display attribute values using unexpected characters. You can save a text file as UTF-8 or Unicode in Windows. Open the file in a text editor such as Notepad, click File > Save As, and choose UTF-8 or Unicode from the Encoding drop-down menu shown at the bottom of the Save As dialog box.
  - If you are adding a CSV file from the web that includes number fields with decimals, the decimal characters in your file should match the format that your system language supports. For example, if your system is set to English, your file should use periods as decimals. If your system is set to French, your file should use commas as decimals.
  - When a CSV file containing latitude and longitude information is added to a map, the latitude and longitude coordinates are converted to the spatial reference of the current basemap.
  - When you add and share a CSV file (including one with address information) as an item for others to download, the file cannot be viewed with Map Viewer Classic.

4.4 File Size Limitations

ArcGIS Portal has varying size limitations depending on whether it is creating new data or uploading attachments to existing feature layers. The table below details these limits by platform and file type.

Platform	File Type	Size Limit

Portal→My Content	• 360 VR Experience (.3vr)
	• Apache Parquet (.parquet)
	• AppBuilder Extension (URL)
	• AppBuilder widget package (.zip)—Only organization administrators can add this type of item.
	• Application (URL)
	• ArcGIS Desktop add-in (.esriaddin)
	• ArcGIS Explorer add-in (.eaz)
	  ○ Legacy: ArcGIS Explorer was retired in January 2018.
	• ArcGIS Explorer application configuration (.ncfg)
	• ArcGIS Explorer document (.nmf)
	• ArcGIS Explorer layer (.nmc)
	• ArcGIS for Windows Mobile package (.wmpk)
	  ○ Legacy: ArcGIS for Windows Mobile software was retired in July 2017.
	• ArcGIS Pro add-in (.esriaddinx)
	• ArcGIS Pro configuration (.proconfigX)
	• ArcGlobe document (.3dd)
	• ArcMap document (.mxd)
	• ArcPad package (.zip)
	  ○ Legacy: ArcPad software was retired in December 2021.
	• ArcReader document (.pmf)
	• ArcScene document (.sxd)
	• CityEngine web scene (.3ws)
	• Code sample (.zip)
	• Comma-separated values (CSV) collection (.zip)
	• Comma-separated values (CSV) file (.csv)
	• Computer-Aided Design (CAD) drawing (.zip)
	• Deep learning package (.zip or .dlpk)
	• Desktop application (.zip)
	• Desktop application template (.zip)
	• Desktop style (.stylx)
	• Document link (URL to online document)
	• Earth configuration (.xml)
	• Esri Classifier Definition (.ecd)
	• Export package (.epk)
	• Feature service (URL)
	• File geodatabase (.zip)—If you publish a hosted feature layer, only feature classes (x,y features only), tables, attachments, and relationship classes are published.
	• Geocode service (URL)
	• Geodata service (URL)
		500 GB[1]

[1] While Esri has increased the size of upload files from 200GB to 500GB, note that bandwidth issues may impact the speed to which this is processed.

4.4 File Size Limitations *continued*

Portal→My Content	• GeoJSON file (.geojson, .json, or URL)
	• Geometry service (URL)
	• Geoprocessing package (.gpk)
	• Geoprocessing sample (.zip)
	• Geoprocessing service (URL)
	• Globe service (URL)
	• GML (.zip)
	• Image collection (.zip)
	• Image file (.jpg, .jpeg, .png, .tif, or .tiff)
	• Image service (URL)
	• Insights model (.json)
	• Insights Script (.json)
	• Insights Theme (.json)
	• Insights Workbook Package (.insightswbk)
	• iWork Keynote (.key)
	• iWork Numbers (.numbers)
	• iWork Pages (.pages)
	• Jupyter Notebook (*.ipynb)
	• Kernel Gateway Connection (.json)
	• Keyhole markup language (KML) collection (.zip)
	• Keyhole markup language (KML) file (.kml or .kmz)
	• Layer (.lyrx)
	• Layer file (.lyr)
	• Layer package (.lpk or .lpkx)
	• Layout (.pagx)
	• Locator package (.gcpk)
	• Map package (.mpk or .mpkx)
	• Map service (URL)
	• Map service definition (MSD) (.msd)
	  ○ Legacy: The .msd format was replaced by service definition draft (.sddraft) and service definition (.sd) files with the release of ArcGIS Server 10.1.
	• Map template (.zip)
	• Microsoft Excel file (.xls or .xlsx)
	• Microsoft PowerPoint presentation (.ppt or .pptx)
	• Microsoft Visio drawing (.vsd)
	• Microsoft Word document (.doc or .docx)
	• Mission Report (URL, file (must use a custom extension), .json)
	• Mobile application (URL)
	• Mobile basemap package (.bpk)
	• Mobile map package (.mmpk)
	• Mobile scene package (.mspk)
	• Native application (.zip)
	• Network analysis service (URL)
	  ○ Note: Beginning with ArcGIS Enterprise 11.0, network analysis services are called routing services.
	• Open Geospatial Consortium (OGC) GeoPackage (.gpkg)
	• Open Geospatial Consortium (OGC) Web Feature Service (WFS) (URL)
	• Open Geospatial Consortium (OGC) Web Map Service (WMS) (URL)
	• Open Geospatial Consortium (OGC) Web Map Tile Service (WMTS) (URL)
	• Oriented imagery catalog (.oic)
	• Ortho Mapping Project (.json)
	• Ortho Mapping Template (.json)
	• Portable Document Format (PDF) (.pdf)
	• Pro map (.mapx)
	• Pro report (.rptx)
	• Pro report template (.rptt)
	• Project package (.ppkx)
	• Project template (.aptx)
	• Raster function template (.rft.xml or .rft.json)
	• Relational database connection (URL)
	• Rule package (.rpk)
	• Scene layer package (.spk or .slpk)
	• Scene service (URL)
	• Service definition (SD) (.sd)
	• Shapefile (.zip)
	• Stream service (URL)
		500 GB[1]

4.4 File Size Limitations *continued*

Portal→My Content	• Survey123 add-in (.surveyaddin) • Tile package (.tpk or .tpkx) • Vector tile package (.vtpk) • Web Experience (.json) • Web Experience Template (.json) • Web mapping application (URL) • Workflow Manager service (URL) • Workflow Manager package (.wpk) • Web mapping application (URL) • Workflow Manager service (URL) • Workflow Manager package (.wpk)	500 GB[1]
Feature Layer / Table Attachments[2]	7Z, AIF, AVI, BMP, CSV, DOC, DOCX, DOT, ECW, EMF, EPS, GEOJSON, GIF, GML, GTAR, GZ, IMG, J2K, JP2, JPC, JPE, JPEG, JPF, JPG, JSON, M4A, MDB, MID, MOV, MP2, MP3, MP4, MPA, MPE, MPEG, MPG, MPV2, PDF, PNG, PPT, PPTX, PS, PSD, QT, RA, RAM, RAW, RMI, SID, TAR, TGZ, TIF, TIFF, TXT, VRML, WAV, WMA, WMF, WMV, WPS, XLS, XLSX, XLT, XML, and ZIP.	10 MB

2 Attachments can handle larger than 10MB BUT these must be done through the REST API which is only accessible by the GIS System Administrator

05

Groups

5. Groups

Groups are collections of items, including data, images, maps, and applications that are related to a single topic, such as an event (hurricane, earthquake, military exercise, etc.).

Groups can be created and managed by designated Group Managers (new role), Publishers, Power Publishers, or Administrators. Any role has permissions to join a group and view its content if the Group Manager permits it.

Group items can be shared publicly or privately, within the organization or within only a group. The only role that can see everything within portal, including private groups, is the Administrator (Reserved only for APAN Staff).

Groups as defined within the VERINT platform do not automatically copy over to Portal for ArcGIS, nor does the content or members within a group. Groups within Portal can be created with the same name as within VERINT or SharePoint. The type of content that can be stored within a Group in Portal is different than what can be stored within in a Group or site in VERINT or SharePoint.

See the GIS Data Types & Formats section for what can be stored. For storage of CUI data see the Content Sharing Guidelines in section 6.2.

06

Content Sharing Guidelines

The content permitted within Portal for ArcGIS is subject to the same Terms as the primary APAN community. These DOs and DON'Ts can be found at **https://community.apan.org/p/terms or https://community.apan.org/p/privacy**. The APAN terms and conditions can be modified at any time without notice.

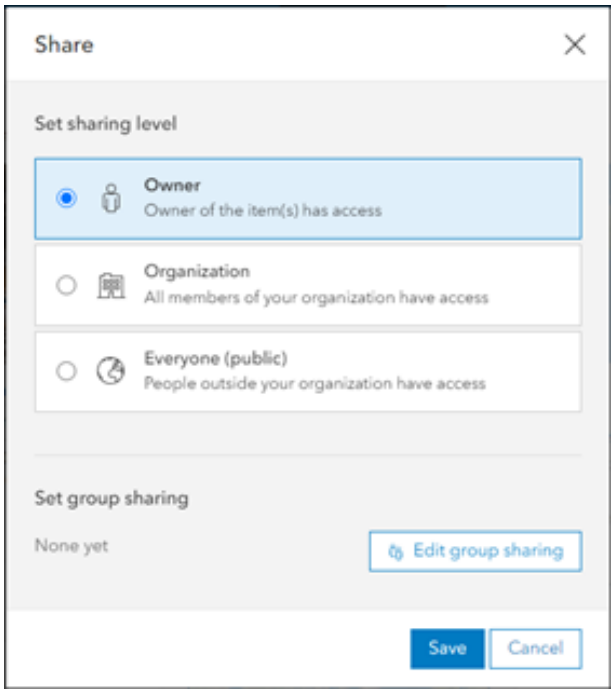
6.1 Sharing Items

By default, content you add or publish to the portal is only accessible to you. Your maps, apps, and data are not available to others—for example, they do not appear in search results and are not part of any group. Depending on your sharing privileges, you can share your items with others. You have several options for sharing y our items:

- Your organization—To ensure that only members of your portal have access to an item, you can share it with just your organization. Members must provide valid APAN ArcGIS Portal credentials to access your item.
- Everyone (public)—Sharing with everyone makes your item public; anybody who has access to the portal website can find and use your item and group owners can include it in their group content. If the item is a feature layer, anyone can export data from the layer when they access it from clients other than the portal.
- Groups you belong to—If you are a member of a group, you can share your item with that group. Sharing with specific groups restricts access to a smaller, more focused set of people. Members must provide valid portal credentials and be a member of the group you specify to access your item. See Section 6.2 concerning Controlled Unclassified Information.
- Your organization and a group—Share items with your organization and a group if you want only members of your organization to have access to them, but you also want to highlight the content for a specific group.
- Everyone and a group—If you want to share thematic content with a subset of users or organize your content into a collection of items, but you also want everyone to have access to your item, you can share an item with a group and with everyone. This is especially appropriate for focused group work in which all members benefit from seeing a list of specific content they can use for collaboration and exchange. For example, as a fire agency that produces burn maps, you want the general public to find and view the maps, but you also want members in the fire agency group to use the maps as templates for creating their own local versions.

Sharing Items *continued*

You can also share public items you do not own through links and email. If you are a group owner, you can share public items to your group.



6.2 Controlled Unclassified Information (CUI)

APAN is approved for storing and sharing CUI according to the approved *Authority to Operate* (ATO). Information that is considered CUI includes but is not limited to those items marked as *Sensitive But Unclassified* (SBU), *For Official Use Only* (FOUO) and *Official Use Only* (*OUO*). Guidelines for marking and handling of CUI can be found on the Information Security Oversight Office website under the National Archives here.

Groups that are created to store CUI and the other similar handling caveats must be requested via the APAN support ticket process. Upon approval from the APAN Technical Director, the designated Group Manager will undergo training to ensure compliance is always maintained.

Groups created in support of the request will remain in a Private Status for the duration of the requested period or end of event whichever occurs first. Created Groups and its content will be periodically reviewed for required usage. Any items that are no longer needed to support the requirement shall be deleted by the Group Manager at the soonest possible time.

Within any new group that is approved to contain CUI, the following line of HTML coding must be inserted in both the Group Description within Portal and the "About" widget for any Web Applications that are built using the WebApp Builder in Portal. This code is not "locked for editing". APAN staff must specifically mention in any training sessions that the Group Manager/Publisher does not remove, alter, or add to the code. As a part of training this can be done for the Group Manager/Publisher that will be responsible for the content.

```
<p style="text-align: center; background-color: #04ad14;"> <span style="font-size: 150%; color: #ffffff;">This system contains CUI</span></p>
```

Within any web applications that are created APAN shall use the "About" widget as a header across the top of the application renaming the widget to "NOTICE:"

Highest Classification Possible CUI

Information that will not be approved for storage/use in APAN or ArcGIS Portal includes; Operational Security (OPSEC), Law Enforcement Sensitive (LES), Protected Health Information (PHI) covered under the Health Insurance Portability and Accountability Act (HIPAA); more information on what is and is not allowed on APAN can be found here.

07

Language Support

Portal for ArcGIS 11.1 supports forty (40) languages out-of-the-box. Users can modify their default language by editing their profile information.

Once logged in, the user will see their name in the top right of the page next to the search box. Click on the arrow next to the name and select “My Profile”. Click “EDIT MY PROFILE”. There is a language drop-down box where the user can select the default language for their account.

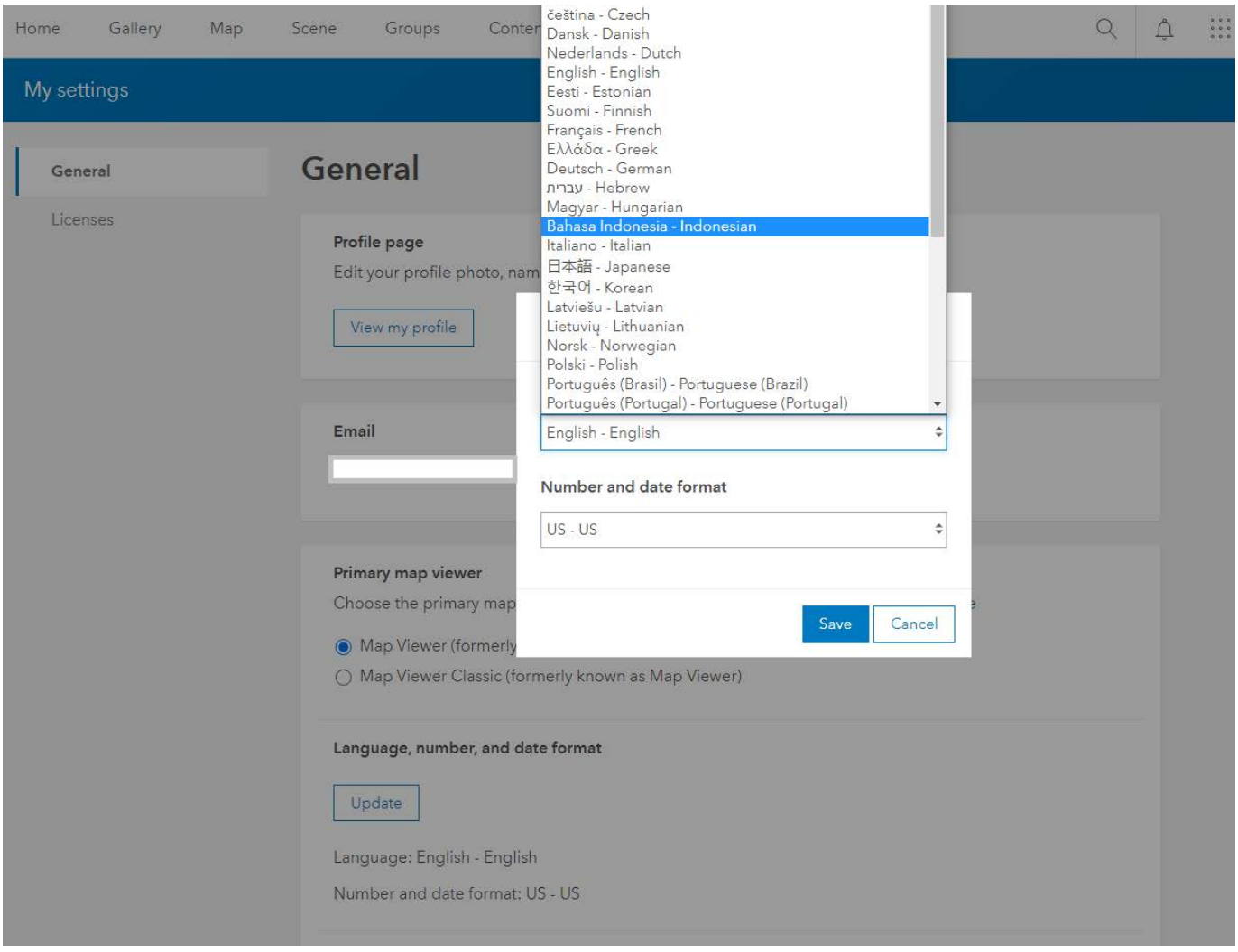
Note: This changes the language of the interface ONLY. Data that has been published in a specific language will NOT be translated to a different language. For example, if I change my default language to French, but data that I need to work with has been published in English, it will remain in English while the interface and descriptors of the data (i.e., metadata) will be in French.

Note – the translate function available via community is NOT available within Portal, nor will it be made available for the foreseeable future.

The following languages are available out-of-the-box:

- Arabic
- Bosnian
- Bulgarian
- Catalan
- Croatian
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- German
- Greek
- Hebrew
- Hungarian
- Indonesian – *Bahasa Indonesia*
- Italian
- Japanese
- Korean
- Latvian
- Lithuanian
- Norwegian
- Polish
- Portuguese – *Brazil*
- Portuguese – *Portugal*
- Romanian
- Russian
- Serbian
- Simplified Chinese
- Slovenian
- Slovak
- Spanish
- Swedish
- Thai
- Traditional Chinese – *Hong Kong*
- Traditional Chinese – *Taiwan*
- Turkish
- Ukrainian
- Vietnamese

Selecting a Language



08

Known Limitations \ Issues

This is a living document, the list of known limitations\issues will be updated periodically, as new issues come to be known.

8.1 Web Interface

Currently no known issues.

8.2 Desktop Connectivity

Currently no known issues.

8.3 Mobile Application(s)

Currently no known issues.

8.4 Single Sign-On (Third party product)

Currently no known issues.

09

Upgrades\Patching\Enhancements\Bug Fixes

Periodically there will be modifications to the infrastructure. These will be done within outage windows and with proper notification to the user community.

9.1 Upgrades

Minor releases of the Esri ArcGIS Enterprise product line are released once a year, usually in July around the time of their annual user conference.

Major releases of the Esri ArcGIS Enterprise product line are released every few years.

Upgrades to the APAN ArcGIS Enterprise infrastructure will follow an —

Integration →Staging →Production
deployment cycle — testing all content and functionality along the way to ensure there are no major negative impacts to the user community. New features of the product(s) will be documented and information disseminated to the user community.

9.2 Enhancements

New products with the ArcGIS Enterprise line of products will be integrated into the current infrastructure during any year. As these occur, information of the features available to the user community will be disseminated.

9.3 Bug Fixes

Any user that finds an issue with Portal for ArcGIS may submit a support ticket for assistance at https://www.apan.org/pages/support.

Bug fixes may be out of the realm of APAN Application Engineers and\or GIS Systems Administrators to fix since the issue may lie in the software product itself. Staff will submit the bug issue to Esri.

Bug fixes will be deployed during APAN outages for patching or upgrades.

- END OF GOVERNANCE -