ArcGIS in a Limited Bandwidth Environment

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Disconnected Environments
Not everyone has internet access

• How many of you run disconnected today, i.e. no internet access?
• Many environments require ArcGIS to run with no access to internet resources
  - No access to ArcGIS Online Basemaps
  - No access to ArcGIS API for JavaScript
  - No access to resources such as World Geocoder, GeoEnrichment Services or other ArcGIS provided utility services
•Disconnected environments create unique challenges that need to be addressed in order to take full advantage of an on-premises ArcGIS Enterprise deployment
Deploying ArcGIS Enterprise
Necessary Components to Install Base Deployment

- Start with the base ArcGIS Enterprise deployment; this is how you get Web GIS in your infrastructure.
- Once you have your base ArcGIS Enterprise deployment configured you can move on to adding additional server sites to federate with your base deployment.
Optional Installed Components
Extend the Reach of your Portal

- Operations Dashboard
- Other Mission Essential Applications
- ArcGIS API for JavaScript
Preparing for your deployment
Disconnected environment preparation steps

• What does the deployment environment look like?
  - Windows vs. Linux

• Download installers and data products from My Esri
  - ArcGIS Enterprise
  - ArcGIS Desktop
  - License Manager
  - JSAPI 3.x and 4.x
  - ArcGIS Maps for Office Portal Resources, etc.
  - Living Atlas Boundary Layers *(disable if needed)*

• Obtain all licenses required for authorizations

• Consider open source downloads from http://esri.github.io/
  - AGO Assistant
  - Solutions GP Toolbox
Licensing your Disconnected Portal
Turning on your ArcGIS Enterprise

- **ArcGIS Server**
  - License Roles

- **Portal for ArcGIS**
  - Named Users
  - Member Levels

- **Insights for ArcGIS**
Authorizing ArcGIS Pro with Portal for ArcGIS

Required Components

1. In ArcGIS License Manager,
   I. Configure with license file (.lic)
   II. Generate a Portal configuration file (.json) from license file

2. In Portal Administrator Directory
   I. Import Portal configuration file
   II. https://portal.domain.com:7443/arcgis/portaladmin

3. Use Portal to manage ArcGIS Pro licenses to Named Users
   I. New controls available on My Organization page
Licensing your Disconnected Portal
Turning on your ArcGIS Enterprise

- Portal for ArcGIS and ArcGIS Server
  - Data Store utilizes ArcGIS Server’s license (Standard and Advanced)
- Apps licensed through Portal for ArcGIS
Enterprise Deployment
Custom Basemaps in Portal for ArcGIS
Where will your Basemaps come from?

- Add a cached map service to Portal map viewer
- Save Web Map as a new item and share with custom Basemap group and “Everyone”
- Add item to custom public group
- Specify custom group for Basemap gallery, and select a default Basemap
- Esri Commercial Data Appliance (CDA) offers ArcGIS Online Basemap capabilities
Enabling On-Premises Utility Services in Portal

Power specific functionality in your Portal

- **Printing** - enable the Print Service of an ArcGIS Server and use the Export Web Map Task.
- **Geometry** - utilize the Geometry Services of an on-premises ArcGIS Server
- **Routing**
  - Utilize Esri Streetmap Premium Routing Services published on-premises
  - Custom Routing Service
- **Geocoding**
  - World Geocoding Service On-Premises
  - Esri Streetmap Premium Geocode Services published on-premises
  - Custom Geocoding Service
- **Analysis Utility Services** - e.g. Hydrology, Elevation, and Network
Default Elevation Service in Portal for ArcGIS

Can you visualize in 3D?

- Publish an image service containing the elevation data (LERC format)
- Add image service to Portal as a new item and share with “Everyone”
  - Only if no federated GIS server is available
- Configure portal to use a new default elevation service (Utility Services)
ArcGIS Enterprise Deployment
Demonstration
Advanced Portal Customization
config.js
What is this? Should I touch it?

- Located at:
  - `<Portal Install Directory>\customizations\10.6\webapps\arcgis#home\js\arcgisonline`
- Detailed in the Portal Administrator Help
- Provides additional configuration of the Portal UI
- Requires restart of portal and clearing cache from web browser
- Use extreme caution when editing; ALWAYS MAKE A BACKUP!
- Not maintained (but overwritten) in an upgrade
  - will need to reapply after upgrade
Important Settings for Disconnected Environments

• Disable ability to search ArcGIS Online | searchArcGISSoOnlineEnabled

• Set the Extent Service | extentService

• Add Security Classification Banners | classificationBanner

• Add Footer Links | footerLinks

• Restrict My Organization page to Portal Admins only | restrictOrganizationPageToAdmin

• Enable/Disable Show Social Media Links | showSocialMediaLink
Update Content Configuration

Controlling External Content

- Allows an administrator to enable or disable external content discovery
- When disabling the content, a select group of items will be disabled:
  - All basemaps owned by "esri_[lang]"
  - All content owned by "esri_nav"
  - All content owned by "esri"
- Will not disable ArcGIS Online utility services or Living Atlas content
Advanced Portal Customizations
Demonstration
Extending Your Enterprise
Insights for ArcGIS Deployment

- Requires ArcGIS Enterprise 10.5 or higher
- Install on Portal for ArcGIS machine
  - *if working in a distributed environment run on hosting server as well*
- Configure Insights for ArcGIS license (.json) via Portal Admin
- Provision licenses to users via Portal for ArcGIS
Operations Dashboard for ArcGIS

- App for monitoring, tracking, and reporting real-time data feeds and assets
- Use charts, gauges, maps, and other visual elements to reflect the status and performance of people, services, assets, and events in real time
Operations Dashboard for ArcGIS

Deployment

• Version 1.0 released in January 2018
• Requires ArcGIS Enterprise 10.6
• Run installer
• Available to users accessing ArcGIS Enterprise
ArcGIS Maps for Office
Portal Resources for ArcGIS Maps for Office

• Install Portal Resources for ArcGIS Maps for Office
  - Host the JavaScript files required by ArcGIS Maps for Office on your network.
• Run installer on Portal machine
• Set your ArcGIS Maps for Office ArcGIS connection to point to your Portal for ArcGIS instance.

http://www.esri.com/software/arcgis/arcgisonline/apps/download
Web AppBuilder (Developer Edition)

Create mapping apps for the web, no coding required

• Deploy a local JSAPI for 3.x and 4.x
• Need a local Geometry Service enabled on an ArcGIS Server
• Change env.js and config.json files to point to these local resources
• ArcGIS Blog posting

Workstations in a Disconnected Environment
ArcGIS Pro Configuration
Getting ready to disconnect

• Download basemaps directly in ArcGIS Pro
• Connect to Portal through “Projects” tab
• If using Named User, “check out” license
  - Don’t forget to “check in” when complete
ArcGIS Earth Configuration
Maps for Everyone on Earth

- On Premises “Disconnected”
- Completely Stand-alone
ArcGIS Earth Configuration
Maps for Everyone on Earth
Questions?
Please Take Our Survey on the App

Download the Esri Events app and find your event

Select the session you attended

Scroll down to find the feedback section

Complete answers and select “Submit”