

## GIS Users on VPN Best Practices

Some users have experienced performance discrepancies with GIS software (e.g. ArcMap, ArcCatalog, ArcGIS Pro, etc.), and services (e.g. Opening a map project from a network drive, uploading data to the network, downloading data from DataMiner) since a significant number of staff continue to work remotely. We understand that this can hinder on your overall workflow. We have created this guide to assist in minimizing the performance discrepancies as much as possible. Please note these are overall guidelines and may not be applicable to every workflow.

Once connected to the internet, you can access Outlook, MS Word, and other desktop and web browser-based applications that do not require GIS specific credentials.

### **You DO NOT need a VPN connection to...**

- View FDEP Geospatial Open Data portal
- View Map Direct
- Submit public Survey123's

### **You need a VPN connection to...**

- Access and download data from DataMiner Tool
- Access a concurrent license for GIS software
- Access your network drives and any data saved on the network

### **To improve your ability to use Enterprise GIS resources remotely, please...**

- Borrow a stand-alone GIS software license (if you are using a concurrent license) ([ArcMap](#)) ([ArcGIS Pro](#))
- Save local copies of projects and layers to your C: drive
- When saving multiple layers, save layer packages, this includes layer properties and the dataset referenced by the layer ([ArcMap](#)) ([ArcGIS Pro](#))
- Avoid downloading/uploading large datasets during VPN usage peak times, (10 am to 2 pm)
- Disconnect from the VPN when not doing activities that require VPN connection (see above)

### **Within your GIS Software (ArcMap or ArcGIS Pro), the following suggestions can improve your overall performance...**

- Under Geoprocessing Options, clear out the geoprocessing history for the project
- Also adjusting the amount of days of geoprocessing results saved
- When saving files locally, minimize the number of folders used. GIS software is programmed to check the validity of all folder connection paths in the specific connection.
- For faster rendering, convert shapefiles into file geodatabases ([ArcMap](#)) ([ArcGIS Pro](#))
- Set visible scale ranges for layer, this can improve map drawing performance ([ArcMap](#)) ([ArcGIS Pro](#))

- Keep projections for layers the same – on the fly, projects affect overall performance ([ArcMap](#)) ([ArcGIS Pro](#))
- Close the Geoprocessing toolbox before saving the project – this can reduce start up times
- Minimize the number of network connections saved in a map document.
- In ArcMap, [analyze your map](#) – this can improve map drawing performance and provide suggestions (File >> Analyze Map)

Please reference the charts below for a better understanding of GIS software licensing options available.

### GIS Software Licensing Options - Network Access

Does the User need network access? (e.g. projects saved on network, using DataMiner, feature services, etc.)			
ArcMap	Yes	Concurrent License	
	No	Stand-Alone License or Borrow License	
		Does the User have VPN installed?	
		Yes	Borrow License or Concurrent License*
No	Install VPN or Concurrent License		
ArcGIS Pro	Yes	Concurrent License	
	No	Borrow License or User-Named License**	

*\*User must be an administrator on PC to access ArcGIS Administrator licensing tool*

*\*\*If user already has Named-User License or confirm availability email GIS.Librarian@dep.state.fl.us*

### GIS Software Licensing Options

		ArcMap	
		Administrator?	
		YES	NO
VPN Installed?	YES	Stand Alone License Borrow License Concurrent License	Borrow License Concurrent License
	NO	Stand Alone License	User must have VPN installed manually on PC.

		ArcGIS Pro	
		Administrator?	
		YES	NO
VPN Installed?	YES	Borrow License Concurrent License Named-User License*	Borrow License Concurrent License Named-User License*
	NO	Named-User License*	Named-User License* User must have VPN installed manually on PC.

*\*If user already has Named-User License or confirm availability email GIS.Librarian@dep.state.fl.us*

## Types of Licenses

- **Concurrent License:** Allows multiple users to have access to GIS software. User must be connected to the DEP Network in order to access a license from the licensing pool.
- **Borrow License:** User can borrow a license from the licensing pool for a specific duration to be able to use the software disconnected from the DEP Network. (Using this license for ArcMap requires user to have administrative privileges)
- **Stand-Alone (Single-Use) License:** Allows one user to access GIS software on one machine, no network connection is required. (Using this license for ArcMap requires user to have administrative privileges)
- **Named-User License (ArcGIS Pro only):** Users who have an ArcGIS Online Account can use the same credentials to access ArcGIS Pro
- For additional information on licensing options, click [here](#).

For any additional questions or concerns, please contact OTIS-GIS at [GIS.Librarian@floridadep.gov](mailto:GIS.Librarian@floridadep.gov)

*NOTE: The following general guidance has been shared from OTIS:*

We appreciate your feedback and understanding. The agency is currently experiencing a volume of remote work unlike anything we have seen before and this, undoubtedly, puts a strain on our remote work resources.

Systems reports that we are working on getting major bandwidth upgrades for the VPN circuits from DMS.

From a service desk perspective, we recommend that you encourage your users to follow these recommendations which can potentially improve their remote work experience:

1. If feasible, save the files you need to work on to OneDrive or even locally instead of working from files stored on the DEP network.
2. If feasible, limit the use of remote tools to earlier in the morning or later in the afternoon to avoid peak usage times (10am to 2pm).
3. Disconnect from remote tools when not actively using them. Of course, we do not expect people to be hopping off and on many times. If you are regularly using the network, you should stay on. However, if you will not have need for the network for an hour or more, then it is best to log off.
4. If possible, connect your computer to your personal network via a cable. Some of the slowness people experience is through their own Wi-Fi connection, which may be less reliable than a hard-wired connection.
5. Though it may sound cliché, rebooting your computer is often a good troubleshooting step and may improve performance in certain cases.

Thank you.