CueTip
Performance Testing of an External Dedicated Network

GeoCue Group Support
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Introduction

The GeoCue software suite uses client/server architecture. Production staff use a GeoCue Client installed on their local workstation to access projects resident on a GeoCue Server. The GeoCue Server is normally installed on the same local network as the workstations hosting the Clients, but hosted on a separate machine. Technically, any Client will be able to access the Server as long as there is a viable network connection between the two machines and both machines are in the same domain. Practically, the performance of the network between the Client and the Server will have a large impact on the overall performance of GeoCue. An internal GB network is generally recommended for any production environment. Performance over external networks (e.g. VPN) is usually not adequate.

Benchmark Testing

To test network connectivity to a remote GeoCue Server being accessed over a VPN or other external network, perform the following steps (in the context of testing from the 'local' Client to a 'remote' Server). Note that in this context, "acceptable performance" is a subjective measure generally taken to mean whatever delay in responding to inputs or commands is considered reasonable by the users:

1. On the remote machine hosting the GeoCue server, run the 'Configure Server' utility found in the 'GeoCue\GeoCue Server' folder of the programs menu. Note the server machine name listed. This information can also be found by running 'Configure Client' on any existing Client machines at the remote location.

2. Logon to the local machine as a User with appropriate permissions to access machines on the remote portion of the network.

3. On the local machine, verify the workstation has network visibility to the remote server machine. This can be tested by entering the server machine name directly in the Windows Explorer path. e.g. \\mygeocueserver\. If you cannot access the remote server machine directly you will not be able to run GeoCue from this local machine. Contact your IT staff to resolve this issue.

4. Also verify that the local machine has network visibility to any GeoCue Warehouses that you will need to access at the remote location. Note that a local Warehouse could be used if all geospatial data for your project will be stored locally. This local Warehouse will still need to be set-up and managed by the remote server, however having the data stored locally will be a significant performance improvement. The trade-off is that GeoCue Clients at the remote location that wish to work with the 'local' project will face the same bandwidth limitations over the external network when trying to access data in the local Warehouse.

5. On the local machine, install the GeoCue Client software from the GeoCue install disk. Enter the remote GeoCue Server machine name when asked. If the GeoCue Client is already installed on the local machine and pointing to another server (usually one on the machine's local network),

you can run the 'Configure Client' utility to redirect the Client to the remote server you are testing.

6. Start the GeoCue Client on the local machine. The Client should start and open with the normal GUI with no project loaded. Note that the time it takes to open the Client will be dependent on your network performance. Over a GB network GeoCue should take no more than 5-10 seconds to initialize and launch the GUI. It may take slight longer the first time a Client attempts to contact the Server. If you observe a significantly longer period of time to open the GUI (i.e. minutes), this is a strong indication your external network connection will not provide acceptable performance for a production environment. If there are network errors, note any messages for future trouble-shooting and consult your IT staff.

7. If the local Client starts and connects to the remote Server in an acceptable period of time, open a 'small' project and benchmark the following performance:

    a. Turn vector layers, such as LIDAR working tiles, ON and OFF, with symbology (Fill) both on and off.
    b. Select single entities and groups of entities.
    c. Place entities in the Working Set. Review Checklists, Properties and Production History.
    d. Create a Published Queue; assign a Planned User to a checklist step.
    e. Test running a selection query in Entity Manager.
    f. If available, open Project Manager.

    If the performance for the above tests is acceptable, your local installation can use GeoCue's tracking and project management tools to work with projects stored on the remote server.

8. Assuming you observe adequate network performance in the previous step, benchmark the following additional tests:

    a. If the GeoCue Warehouse for the project you want to work with is at the remote location, use GeoCue's caching tools to copy a typical data file (e.g. a LIDAR tile) to the local machine. Note the time it takes to cache the data over your network. The time it takes to cache a typical data file will be a good indicator of the performance you might expect without caching the data. If you are seeing very fast caching times, you may want to test performance without caching.
    b. You may also want to test using your local Client to manage distributed processing of batch production at the remote location. For example, try assigning macros to LIDAR tiles and then running them in distributed processing mode selecting only machines at the remote location.
    c. Finally, you may want to test raster display performance by turning a raster layer ON and OFF in the Client. If image display performance is not acceptable over the external network (very probable), you can still work with raster footprints in a tracking/management mode.

> If the performance of the above benchmarks is acceptable (either with or without caching of the data), your local installation can use GeoCue's production tools, such as launching a TerraScan editing session, to work with projects and data stored on the remote server. Note that you will need the appropriate production software (e.g. MicroStation, TerraScan) installed on the local machine as well.

If all the above benchmarks are acceptable (i.e. the network bottleneck is not so severe that the production technician can't get anything done), you can plan to use a local GeoCue Client to access the remote GeoCue Server. If you plan to install multiple Clients on the local network, all accessing the same remote Server, discuss network bandwidth issues with your IT staff. You may wish to do an additional benchmark test with all Clients simultaneously caching data from the remote Server.

If you do not get acceptable performance over your external network when conducting the above benchmark tests, consider deploying a second GeoCue Server at the remote location and using GeoCue's Project Portal to allow web updates and status reports to be posted between locations.

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