

ArcGIS Pro Performance Assessment Tool (PAT)

About PAT

The ArcGIS Pro Performance Assessment Tool (PAT) is a self-contained set of tests to quickly assess your machine's ability to run key Pro workflows. It may be used for self-service investigation of a perceived performance issue, or in conjunction with Esri Technical Support.

Execution Requirements

For the Performance Assessment tool to successfully run, the following are required:

- ArcGIS Pro, version 2.7 or newer¹
- The "ProPAT_and_PerfTools_vN.zip", available for you to [download](#), containing the following:
 - The PAT test collection
 - The ArcGIS Pro PerfTools Add-In (a requirement for test execution if not already installed on your machine)
- A physical machine or a non-application virtualized virtual machine. On shared environments such as Windows Server or a VDI solution, place the PAT installation folder in Installation steps 1 and 2 below into a non-shared location on the file system for each user account that will be executing the tests. This is typically the "My Documents" folder for each user. *Application-virtualized virtual machines (i.e. Citrix XenApp) are not supported with PAT. For questions on your configuration or if this applies to you, please work with your system administrator.*

Installation

1. Following download, extract the .zip file to the location of your choice on the machine you wish to test.
 - a. The path length of the location where you place the ProPAT_and_PerfTools_vN folder must not exceed 89 characters for tests to perform as expected.
 - b. PAT can be extracted to a UNC path for testing*. When run, the tool will create a mapped network drive using the first available letter starting from Z: and moving backwards. For example, if you already have Z: mapped on your machine, the tool will map to Y:, and so on. To remove the drive after testing, see the **Cleanup and Uninstallation** section.

*It is important to note that testing across a network can increase execution times. If you are not meeting the Benchmark Execution Times posted in the **About the Tests** section, copy the ProPAT_and_PerfTools_vN folder to your local machine (C:) and re-run the tests. The difference in execution times can be attributed to network latency. For more information, see [Application, project, and data location tips](#).

2. If the PerfTools Add-In is not already installed, or if you've already installed and used a previous version of PerfTools/PAT:
 - a. Open ..\ProPAT_and_PerfTools_vN\Setup PerfTools Build 258 for Pro 2.x and 3.x
 - b. Open the subfolder appropriate for the version of Pro you are running ("forPro2.7.x-2.9.x" or "forPro3.0.x+")
 - c. Double-click "PerfTools.esriAddinX" to install the PerfTools Add-In.
 - d. A dialog will appear to confirm the Add-In file installation. Select "Install Add-In"
 - e. Manually launch ArcGIS Pro to perform post-install initialization of PerfTools
 - f. Close ArcGIS Pro

¹ ProPAT executes on Windows 8.x, 10, 11, and Windows Server. Non-English locales should enable English (US) regional settings for correct execution.

About the Tests

PAT is a collection of test scripts and data. It executes at 3 levels:

Level	Description	Benchmark Execution Time Average (Range) in minutes
1	Concise test of map rendering and GP analysis	2.8 (2.5 – 3.3)
2	More in-depth test of 3-D rendering, editing, projection, and GP tasks	8 (4 – 15)
3	Set of GP analysis and 3-D visibility tests for more thoroughly exercising CPU/GPU including CUDA, as applicable. These tests are command-line only and no ArcGIS Pro window will appear during execution. ²	20 (10 – 39)

Running the Tests

Note: During test execution, refrain from using the machine and manually closing any command windows. Upon successful completion, all windows will automatically close.

1. Close all applications that are running on the machine (for example Outlook, Teams, etc.)
2. Double-click the appropriate RUNME file. For example:
 - a. **RUNME_Level1Tests.cmd** runs the Level 1 tests
 - b. **RUNME_Level2Tests.cmd** runs the Level 2 tests
 - c. **RUNME_Level3Tests.cmd** runs the Level 3 tests
 - d. **RUNME_AllLevelTestsAndMakeCSV.cmd** runs all Level 1, 2, and 3 tests and compiles the results in a CSV file. This is intended for unattended execution and compilation of test results.

Viewing Test Results

Following test completion, both summary and detailed logs will be placed in `..\ProPAT_and_PerfTools_vN\ProPAT\TestResults`. A date/timestamped folder will be created for every test run, in the format "LevelN_MMM-DD-YYYY_HHMMSS".

Within this folder, summary logs (named "SUMMARY_LevelN.log") contain the total elapsed time in minutes for the test run. The **Benchmark Execution Times** published above correspond to the SUMMARY Total Elapsed Time. Should you wish to view detailed logs for each of the individual tests, they are also available at the same location.

Next Steps

Now that you've run PAT, we're interested in learning more about your results. Share your results here:

<https://arcg.is/0HuKO9>

Seeing results that appear to be slow? We've compiled a comprehensive set of guidelines and next steps in the online document [Troubleshooting Performance Issues in ArcGIS Pro](#).

² Level 3 tests require a Spatial Analyst license.

Cleanup and Uninstallation

If you ran PAT from a UNC location and wish to disconnect the mapped network drive resulting from the tests:

1. In File Explorer, go to This PC and find the mapped drive under Network locations
2. Right-click the mapped network drive > Disconnect

Should you wish to remove the Performance Assessment Tool, please:

1. Delete the “ProPAT_and_PerfTools_vN” folder. This will remove all tests and test results from your machine.
2. Optionally, remove the PerfTools Add-In from ArcGIS Pro:
 - a. Close any open ArcGIS Pro sessions
 - b. Remove %USERPROFILE%\Documents\ArcGIS\AddIns\ArcGISPro\PerfTools
 - c. Re-launch ArcGIS Pro

Disclaimer: While PAT may be used to investigate perceived performance issues with the help of Esri Technical Support, PAT itself is not supported by Technical Support; any questions or feedback regarding PAT should be forwarded to perfqatools@esri.com.