

Geoteric 2023.3.1 AI Server Recommended Specifications

Overview

Geoteric optionally includes Geoteric AI Horizons and Geoteric AI Faults when obtained with the appropriate licenses. Geoteric AI Horizons and Geoteric AI Faults include CPU and GPU intense processes and so, it is recommended that these new processes are hosted on a separate server machine (Geoteric Server).

This guide details the recommended specifications for the AI Horizons server.

This guide also details the recommended specifications for optionally installing and running both the Geoteric AI Horizons server and the Geoteric AI Faults server on the same machine.

Alternatively, if hosting the Geoteric AI Faults server on the machine on which Geoteric is hosted, then please see the “Geoteric 2023_2 Classic Recommended Specifications June2023” document.

Geoteric Desktop is the user facing Geoteric application with 3D visualisation of seismic data. Please see the document “Geoteric 2023_2 Classic Recommended Specifications June2023” for guidance on the Geoteric hosted machine specifications.

Geoteric AI Horizons *Only* Server

The Geoteric Server on which Geoteric AI Horizons processing will take place requires a dedicated server/workstation. It has a minimum and preferred specification as listed below.

Note that the preferred specification machine will perform on average at twice the speed of the minimum specification machine (actual time depends on geological complexity of the input volumes).

Geoteric AI Horizons dedicated workstation – MINIMUM SPECIFICATION

For minimum specifications, please ensure the workstation is dedicated to Geoteric AI Horizon processing only.

CPU – Single CPU with 10 cores

RAM – 128GB or more

Storage – SSD (size dependent appropriate to data, prefer 500GB+)

Geoteric AI Horizons dedicated workstation – PREFERRED SPECIFICATION

CPU – Dual or Quad Intel Xeon Gold – 24 cores or more per CPU

RAM – 256GB or more

Storage – local 1x 2TB SSD or M.2 for O/S and temp storage

Storage – High speed (min 10Gbit) SAN or file share for mass project storage

Geoteric AI Faults AND Geoteric AI Horizons dedicated workstation

The Geoteric Server on which Geoteric AI Horizons AND Geoteric AI Faults processing will take place requires a dedicated server/workstation as described above for the Geoteric AI Horizons Server but with extra GPU to enable the processing of the AI Faults calculations. It has a preferred specification as listed below.

Geoteric AI Server dedicated workstation – MINIMUM SPECIFICATION

For minimum specifications, please ensure the workstation is dedicated to Geoteric processing only.

CPU – Single CPU with 10 cores

RAM – 128GB or more

Storage – SSD (size dependent appropriate to data, prefer 500GB+)

GPU – NVidia P,V or A class GPU with 16GB or more of GPU RAM

Geoteric AI Server dedicated workstation – PREFERRED SPECIFICATION

CPU – Dual or Quad Intel Xeon Gold – 24 cores or more per CPU

RAM – 256GB or more

Storage – local 1x 2TB SSD or M.2 for O/S and temp storage

Storage – High speed (min 10Gbit) SAN or file share for mass project storage

GPU – NVidia P,V or A class GPU with 16GB or more of GPU RAM

Best performance will be obtained when there is a fast I/O between the processing machine and the machine on which Geoteric and the projects are located.

If High speed SANs are not available, please ensure that both machines have SSDs.

Antivirus and other software

We recommend that you add the Geoteric program folder (and the entire contents) to your antivirus exceptions whitelist.

You should also ensure that your antivirus is not scanning the Geoteric temp folder and the project folders whilst they are in use.

Ensure that any backup or indexing software is not actively running on your machine whilst you are using Geoteric as this would noticeably impact performance.

Docking Stations

Ensure that the correct recommended high-power cables/plugs are used to power docking stations.

Frequently, smaller traveling plugs or cables which are not recommended or did not come with the docking station are used. These cables do not enable full power to be delivered to the docking station. This results in reduced power being delivered to the desktop machine which results in that machine automatically setting lower specifications on the CPU and GPU.

This subsequently results in slower running times for many processes.

Troubleshooting

If you have Windows 10 Enterprise LTSE and Windows 10 Enterprise N versions they do not extract the MATLAB runtime .tar.gz zip folder and therefore it is required that this folder is extracted manually from the .tar.gz in the following location C:\Program Files\Geoteric\Geoteric AI Installers 2023.3.1\Geoteric AI Horizons.



Hibernation issues

It is possible that an AI Horizons processing run has completed all algorithm steps but then failed at the very last step and can not complete. The cause of this is likely to be that the computer has gone into hibernation.

If you want to check first if that is the issue, look in the event viewer, go to system, and look for any Event ID 42 and Event ID 1 (sleep then wake respectively).

To prevent a Windows machine from hibernating, follow these steps

Press Windows key + X.

Select Command Prompt (Admin).

On the Command Prompt window, type `powercfg.exe /hibernate off`.

Press Enter.

Type exit, and then press Enter to close the Command Prompt window.