Geoteric 2023.3.1 AI Servers Install Guide

Contents

1. Introduction

Geoteric has the option for including Geoteric AI Horizons and Geoteric AI Faults when enabled with the appropriate licenses.

Geoteric AI Horizons and Geoteric AI Faults are CPU and GPU intense processes therefore it is recommended that these new processes are hosted on a separate server machine.

Please see the Custom Installations section below for the information required for your specific hardware configuration. For example, whether installing onto one machine or running the AI servers on a separate server machine or whether installing only Geoteric AI Faults or only Geoteric AI Horizons, or whether both are installed.

2. Prior to Installation

Whilst the Geoteric AI Server installation should take care of all items listed below, it is recommended to check.

Uninstall earlier versions of Geoteric AI Faults and the Geoteric Process Manager:

1. Geoteric Process Manager (it was included with installations from Geoteric 2022.2.1 onwards and it must be removed)

2. Geoteric AI Faults Server for Geoteric 2022.x

3. Geoteric 2022.x or earlier versions

It is highly recommended that you remove all related environmental variables associated with Geoteric AI Faults and the Geoteric Process Manager before installing Geoteric 2023.3.1.

- These include GEOTERIC_PROCESS_MANAGER_URL, and GEOTERIC_PROCESS_MANAGER_PORT
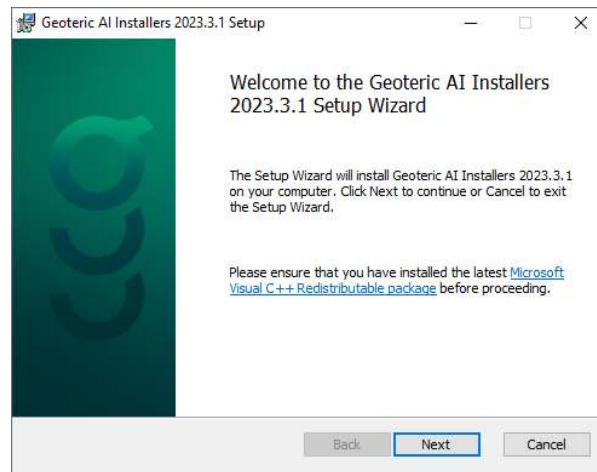
3. Install Geoteric Desktop

Please see the "Geoteric 2023_3_1 Classic Installation Guide" and install Geoteric 2023.3.1 prior to installation of the AI servers.
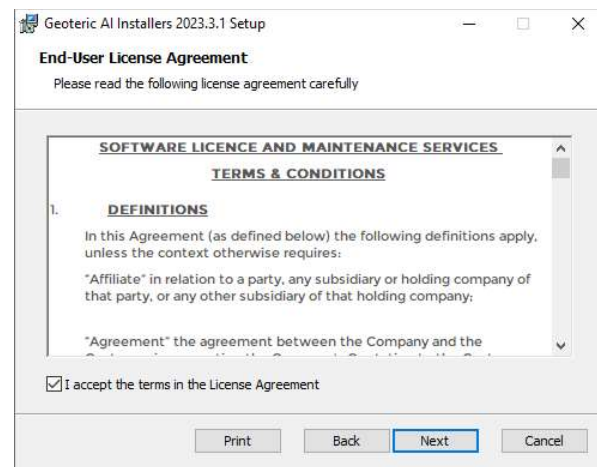
4. Install Geoteric AI Servers

Download and unzip the Windows Geoteric AI Installer.

Double click the Geoteric-ai-installer-2023.3.1.msi to begin the installation wizard.
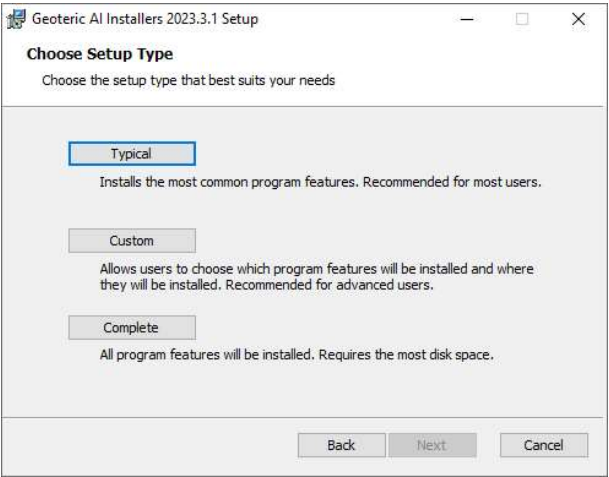
Note that administrator privileges will be required to install.

Click "Next" for the License Agreement.

Click the box "I accept the terms in the License Agreement" to agree to the license terms.

Select either Typical, Custom or Complete to install.

Note that for this release, there are differences between the Typical and Complete options for installation. Please see the "Custom installations" and the "typical or complete installation" sections for more details.
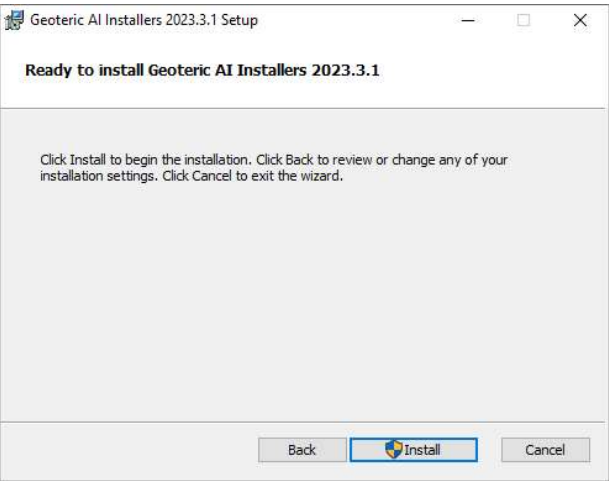
Select Install to begin the installation.
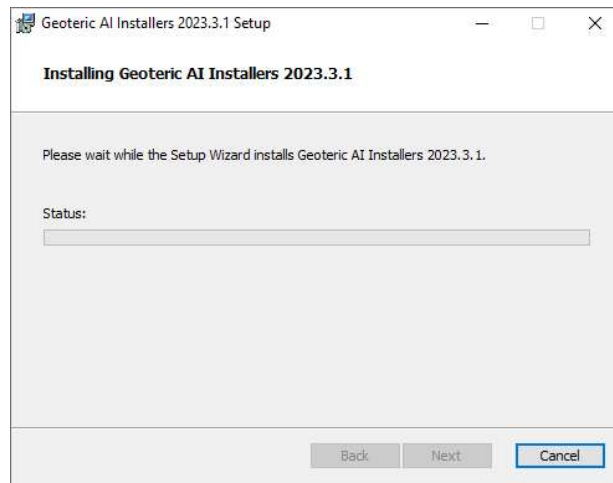
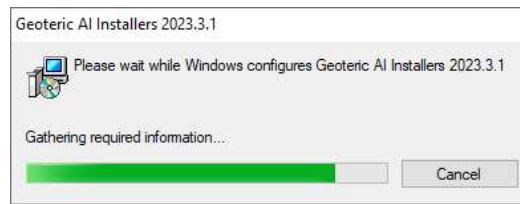You will see the progress of the installation as files are copied.
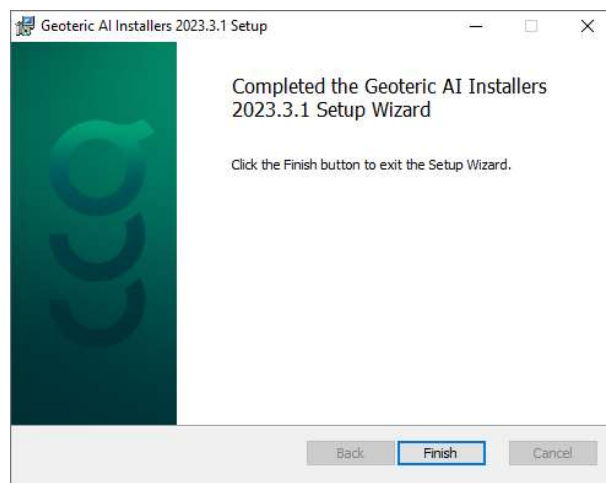
Click "Finish" to complete the installation.

5. Uninstall

Note that administrator privileges will be required to uninstall.

To uninstall, go into the Control Panel > Programs and Features and select "Geoteric AI Installers 2023.3.1", and then uninstall it from the program list.

The following dialog states that a reboot is required, however selecting OK to continue will not always require such a reboot. The uninstall will complete successfully regardless of reboot or not.

Geoteric AI Servers will be uninstalled after the progress bar completes.
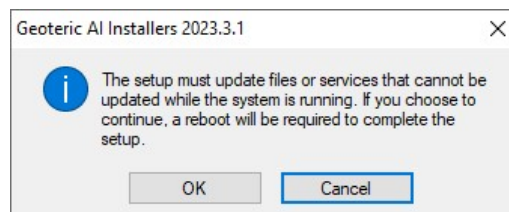
6. Typical or Complete Installation?
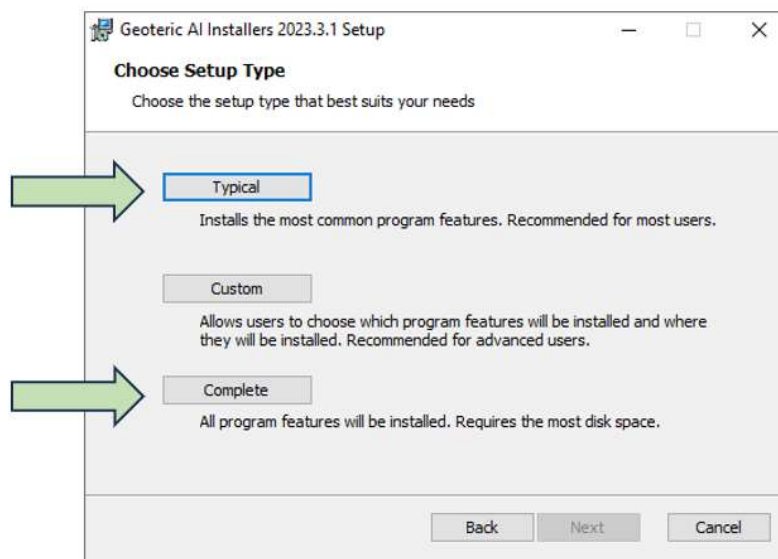
Complete

The option "Complete" includes installation of the Process Manager.

Only one Geoteric Process Manager can be licensed and running for an organisation.

Do not use "Complete" on every machine in the company. Such a situation will result in the very first client machine which starts the process to take the process manager license and all other client machines will fail to start Geoteric AI Faults.

When there are more than one client machine running AI Faults it will be necessary to use the option "Typical" or "Custom" on all those machines.

When installing onto a local machine, when no other client machine will require the licenses, you can choose "Complete". This would be suitable in a situation where there is only one license for Geoteric AI Fault and it has been installed onto a dedicated high specification workstation. This installation option will include the Process Manager. All processing and license allocation will be managed by that one machine.

When installing onto a remote server which is to host the management of licensing, use "Complete" or "Custom" to ensure that the Process Manager has been installed and will be managed by that machine, with all client machines referencing this server in their environment variables (see later section for more details on this).

Typical

The option "Typical" does NOT include installation of the Process Manager.

Use "Typical" on every machine in the company. Every client machine will reference a remote server via environment variables. That remote server will have the Process Manager installed and will manage the licensing for Geoteric AI Faults.

7. Custom Installations

Choose the "Custom" installation when you only wish to install one of either Geoteric AI Faults or Geoteric AI Horizons or you want to install Geoteric AI Faults locally.
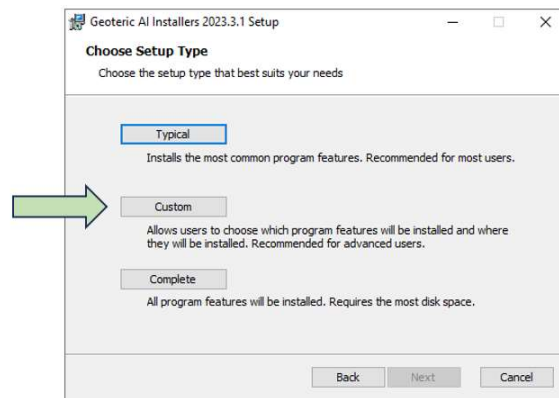
On the following screen you can select the relevant items for installation depending on your local or remote server situation.
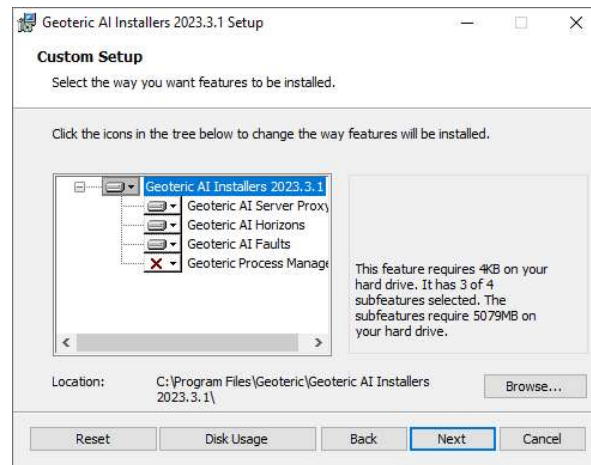
Options:

- On a remote machine, Geoteric AI Horizons will require the Geoteric AI Server Proxy

- On a remote machine, Geoteric AI Faults will require the Geoteric AI Server Proxy and the Process Manager

- On a remote machine, both Geoteric AI Faults and Geoteric AI Horizons installed together will require the Geoteric AI Server Proxy and the Process Manager

- On a local machine Geoteric AI Faults will require the Process Manager if this will be a standalone machine. The Geoteric Process Manager should be installed on a separate remote server machine if more than one client machines with to run Geoteric AI Faults.

- It is not recommended to install Geoteric AI Horizons onto a local machine.

8. Geoteric AI Faults - Local or Remote

Geoteric AI Faults requires an advanced GPU because Geoteric AI Faults is a very GPU intensive process. Please see the recommended specifications for details.

Prior to Geoteric 2023.1: Geoteric AI Faults could only be installed and run on the same machine as Geoteric Desktop.   Since Geoteric 2023.1 there have been more options for installation onto remote servers.

Since Geoteric 2023.1, Geoteric AI Faults has these options:

- **Geoteric AI Faults - Local** (as was the case with previous versions of Geoteric) or

- **Geoteric AI Faults - Remote** in a shared server configuration

Moving Geoteric AI Faults processing to a remote machine has some benefits including:

- Freeing up hardware resources on the Geoteric Desktop workstation allowing Geoteric Desktop to use these resources for other processing and 3D visualisation

- Removing the need for expensive Graphics cards in every Geoteric Desktop workstation - this expensive resource can now be made available to multiple users from a single server

It is recommended to contact the Geoteric Customer Support team, who will be happy to walk-through the installation with you.

9. Environmental Variables

One environmental variable parameter must be set manually. This must be set to the IP address or hostname and port of the remote machine.

GEOTERIC_AI_PROXY_URL = hostname:port or host_ip:port

If an additional and different remote machine is used for Geoteric AI Faults then this environment variable must be set to the IP address of the AI Faults remote machine.

GEOTERIC_AI_FAULTS_PROXY_URL = hostname:port or host_ip:port

There are a number of environment variables which are created automatically during the installation for the Geoteric AI Servers, as listed below.

FFALTD_LICENSE_FILE

GEOTERIC_AI_FAULTS_INSTALL_DIR

GEOTERIC_AI_FAULTS_LOCAL_URL

GEOTERIC_AI_FAULTS_PORT

GEOTERIC_PROCESS_MANAGER_URL

GEOTERIC_PROCESS_MANAGER_DB_PATH

GEOTERIC_AI_PROXY_PORT

GEOTERIC_AI_HORIZONS_SERVER_PORT

If you encounter any issues, please check that you have the relevant variables set to the correct parameter on the local and remote machines.

10. Verification and Diagnostics

To verify that the installation has been successful, from a web browser, running on any machine on the same network as the Geoteric Server (for example your Geoteric Desktop workstation), type in the following URL, substituting your Geoteric Server name where you see <Server> below:

`http://Server:5000/diagnostics`

Where Server=your Server name

An example of the diagnostics page is shown below.

11. Hibernation issues

We recommend that hibernation is switched off for all machines which run the AI Horizons processing. If hibernation is switched on, AI Horizons or AI Faults will fail.

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.

12. License Selection

Once Geoteric AI Servers have been installed, start Geoteric Desktop on your local workstation.

Select the GEOTERIC_AI_FAULTS_3D_NETWORKS (or GEOTERIC_AI_FAULTS_2D_NETWORKS) license on start-up for the Geoteric AI Faults functionality.
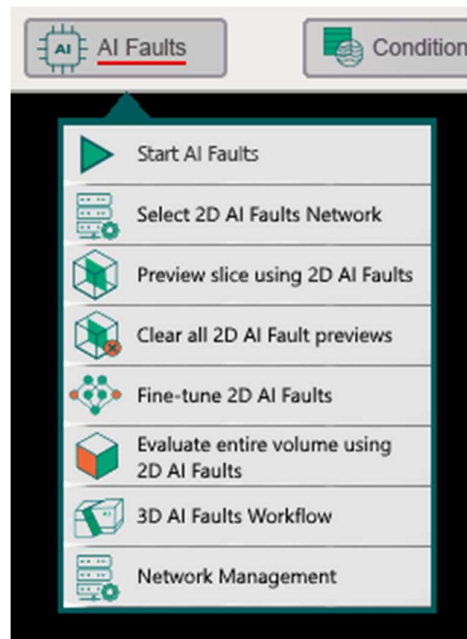
Select the GEOTERIC_AI_HORIZONS license on start-up for the Geoteric AI Horizons functionality.
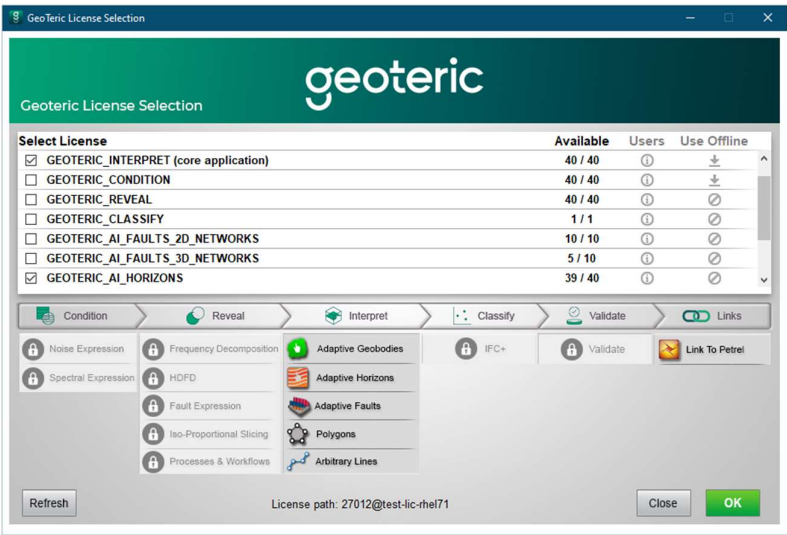
On the main Geoteric 3D viewer, you should now see two new menus for Geoteric AI Faults and Geoteric AI Horizons.
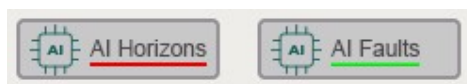

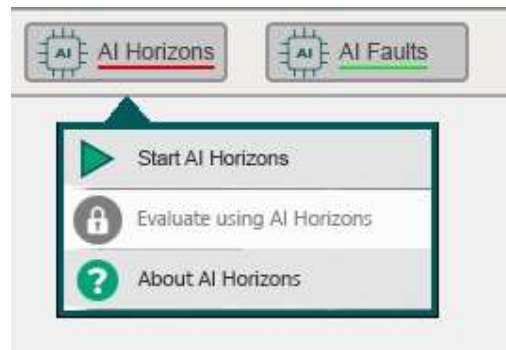In the AI Faults menu, select Start AI Faults.

You will be prompted to log in to the Geoteric AI Faults server. It is essential that the user account used to start Geoteric AI Faults has sufficient permissions to write to the project files on the Geoteric Desktop workstation.
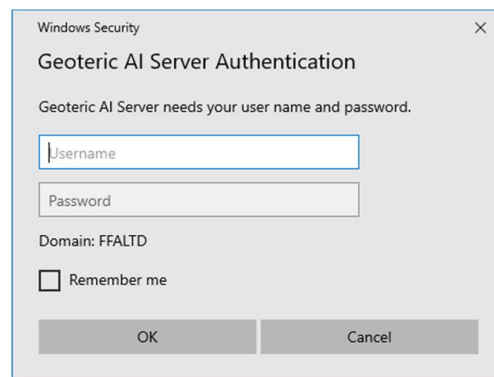

After a short delay, the AI Faults menu will switch to a green indicator showing that the connection has been successful, and Geoteric AI Faults is ready to receive requests.

In the AI Horizons menu, select Start AI Horizons.

You will be prompted to log in to the AI Horizons server. It is essential that the user account used to start AI Horizons has sufficient permissions to write to the project files on the Geoteric Desktop workstation.

After a short delay, the AI Horizons menu will switch to a green indicator showing that the connection has been successful, and Geoteric AI Horizons is ready to receive requests.

13. Opening a Project – Universal Naming Convention (UNC) Project Path Directory

UNC is Universal Naming Convention

FQDN is the Fully Qualified Domain Name

IP is the Internet Protocol

For the AI Horizons to link correctly to the server, the project must be opened using UNC project path directory.

UNC is Universal Naming Convention paths, which are used to access network resources. It is a standard for identifying servers, printers and other resources in a network. They have the following format:

- A server or host name, which is prefaced by \\

- The path (disk and directories) within the computer is separated with a single slash or backslash.

- The server name can be a NetBIOS machine name or an IP/FQDN address.

- Examples:

    - [\\myMachine\MyProjects\Project1](#)

    - [\\ipaddress\SharedProjects\Project1](#)

If you attempt to run Geoteric AI Horizons or Geoteric AI Faults using a project referenced by a local path (C:\MyProjects\Project for example) the request will be refused and a message will ask you to use UNC paths.

14. Silent Installation

If the installer is to be installed silently with a custom installation option, open a command prompt and navigate to the location of the AI installer. The following command will install everything in the AI installer. Remove any item/s that are not required by deleting from the ADDLOCAL components.

msiexec /i geoteric-ai-installer-2023.3.msi ADDLOCAL=ProxyFeature,AIHorizonsFeature,AIFaultsFeature,ProcessManagerFeature

For example, if the Proxy and the AI Horizons are not required locally delete the ProxyFeature and the AI HorizonsFeature from the list.