



Application Note #12

How to : «Run V4D on a laptop»

The application-note purpose is to guide the user in configuring Vision4D to run on a laptop equipped with double graphic card. Medium or top level laptop usually have 2 graphic devices available, Vision4D requires to access at the high performance one.

The high performance graphic device is needed in order to support the 3D advanced graphic language (OpenGL) used during the volume rendering and visualization.

By default, the operating system assigns the basic graphic device to the application. This application note shows how to change the predefined OS setting.

Application Note «Run V4D on a laptop»

Application Flowchart

Check you laptop configuration

Assign Vision4D to the high performace graphic card

Assign Vision4D to the high performace graphic card

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NOTE:

The Application Note is referred to a specific graphic card family (NVidia) but similar workflow can be applied to other graphic devices (ATI, and etcetera) installed on the laptops.



1. Overview

In order to handle the 3D volumes and segments visualization and rendering, Vision4D requires to access at the hardware resources of the graphic engine installed on the PC. While this is not a problem on the desktop workstation (correctly equipped with high performances GPU), the medium or top level laptops usually have a less clear configuration. Their configuration usually include a double graphic card, the built in one (E.G. Intel HD family), as well as an advanced graphic engine (E.G. NVIDIA, ATI RADEON, and etcetera). Vision4D cannot applies its 3D visualization tools if a basic graphic card is used. By default, the Laptops operating systems forces the applications to be executed using the basic graphic hardware, in order to save energy.

If the message «*Viewer initialization failed: OpenGL ILS extension is not supported*" is issued, it means that Vision4D has been launched using the basic graphic processor. Therefore, the 3D visualization features are not available. Please follow the instruction hereby reported to check first if the laptop has the required graphic resources and, if confirmed, to change the default settings.

NOTE:

Keep your high performances graphic driver update. Check frequently on the GPU producer web site if a new driver is available.

Application Note «Run V4D on a laptop»

1. Check you laptop configuration

Step 1.1

Click on Show hidden icons.. Button on the task bar

Step 1.2

Check if the Nvidia control panel icon is shown in the pop up menu.

TIPS:

If the Nvidia control panel icon is not present in the pop up menu, use the seaching field, located in the task bar, to search for the Nvidia control panel.

DETAILS:

The presence of the Nvidia control panel clearly indicate that the laptop is equipped with a double graphic card. Therefore is possible to proceed in the Vision4D configuration

2. Assign Vision4D to the high performance graphic card (directly via Control panel)

Adjust Image Settings with Preview

Step 2.1

Open the Nvidia control panel.

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2. Assign Vision4D to the high performance graphic card (continue)

Step 2.2 From the top left panel sel the " <i>Manage 3D setting</i> "	ect task.	t a Task 3D Settings Adjust image settings with preview <mark>Manage 3D settings</mark> Set PhysX Configuration	
Step 2.3 Click on the " <i>Program setting</i> " tab.		Manage 3D Settings You can change the global 3D settings and create over each time the specified programs are launched. I would like to use the following 3D settings: Global Settings	
Step 2.4 Click on the " <i>Add"</i> button.	Global Setting 1. Select a p Google C Show only 2. Select the Integrated g	Clobal presets: Base profile Program Settings rogram to customise: Chrome (chrome.exe) V Add y programs found on this computer preferred graphics processor for this program: graphics	
Step 2.5 From the pop up dialog, use the " Browse" button to select the Vision4D executable file	Can't find the pro Browse to and ac for all the execut	sistInstaller pgram? Browse Browse Browse Add a program or a folder. Adding a folder will create a profile able files inside the folder and subfolders. Add Selected Program Cancel	



2. Assign Vision4D to the high performance graphic card (continue)

NOTE:

The Vision4D executable file is located under the "C:\Program Files \arivis vision4d" folder.



Step 2.6

Select the "arivisVision4D" exe file.

Step 2.7

From the drop down list, select the "High performance NVIDIA processor.."

Global Settings	Program Settings	
1. Select a pro	gram to customise:	
✤ c:\program	n files\arivis vision4d\ \lor	Add
Show only	programs found on this compu	iter
2. Select the p	referred graphics processor fo	or this program:
Use global set	ting (High-performance NVIDL	A processor)
🧐 Use alobal	setting (High-performance NV	(IDIA processor)
High-perfo	rmance NVIDIA processor	
Integrated		
anogrates	graphics	



2. Assign Vision4D to the high performance graphic card (continue)

Step 2.8 Press the "Apply" button to confirm permanently the selection.

Apply	Cancel

3. Assign Vision4D to the high performance graphic card (from the desktop icon)

NOTE:

The assignment process can be started from Vision4D desktop icon.

Step 3.1

Mouse right click on the Vision4D desktop icon.



Step 3.2 From the pop up menu,

select the "Run with graphic processor" item

Open	
Run with graphics processor	>
Open file location	
Run as administrator	
Troubleshoot compatibility	
Pin to Start	
7-Zip	>
CRC SHA	>
	Open Run with graphics processor Open file location Run as administrator Troubleshoot compatibility Pin to Start 7-Zip CRC SHA



3. Assign Vision4D to the high performance graphic card (continue)

Step 3.3 Selecting the *"Highperformance NIVIDIA processor"* item, Vision4D will start using this option High-performance NVIDIA processor (default)

Integrated graphics

Change default graphics processor...

NOTE:

This approach is NOT permanent. It must be repeat any time Vision4D is launched.

To make the choice permanent, click on the «*Change default graphic processor...*»

The NIVIDIA control panel is shown, please jump back to the chapter 2 and follow the related instruction.

Step 3.3 (alternative)

Go back to the chapter 2 for the related instructions

High-performance NVIDIA processor (default) Integrated graphics

Change default graphics processor...









Contact the arivis application support to receive additional technical details about the topic described in the application note, or how to adapt the application workflow to your requirements.

"The quantitative analysis of the images represents the art of transforming a visual sensation into its schematic and discrete form allowing its univocal description, classification and mathematical and logical interpretation of its spatial and temporal components"

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