

Tutorial on applaunch

Applaunch, or “Application Launcher” is a GPU plugin that can call any process. With a little practice, it may be the base of your custom plugin.

The terragen wrapper 'earthsim' was initially called using applaunch, until we optimized it (mainly to do multiple jobs) as dll. The advantage is that earthsim could just be developed as stand alone application.

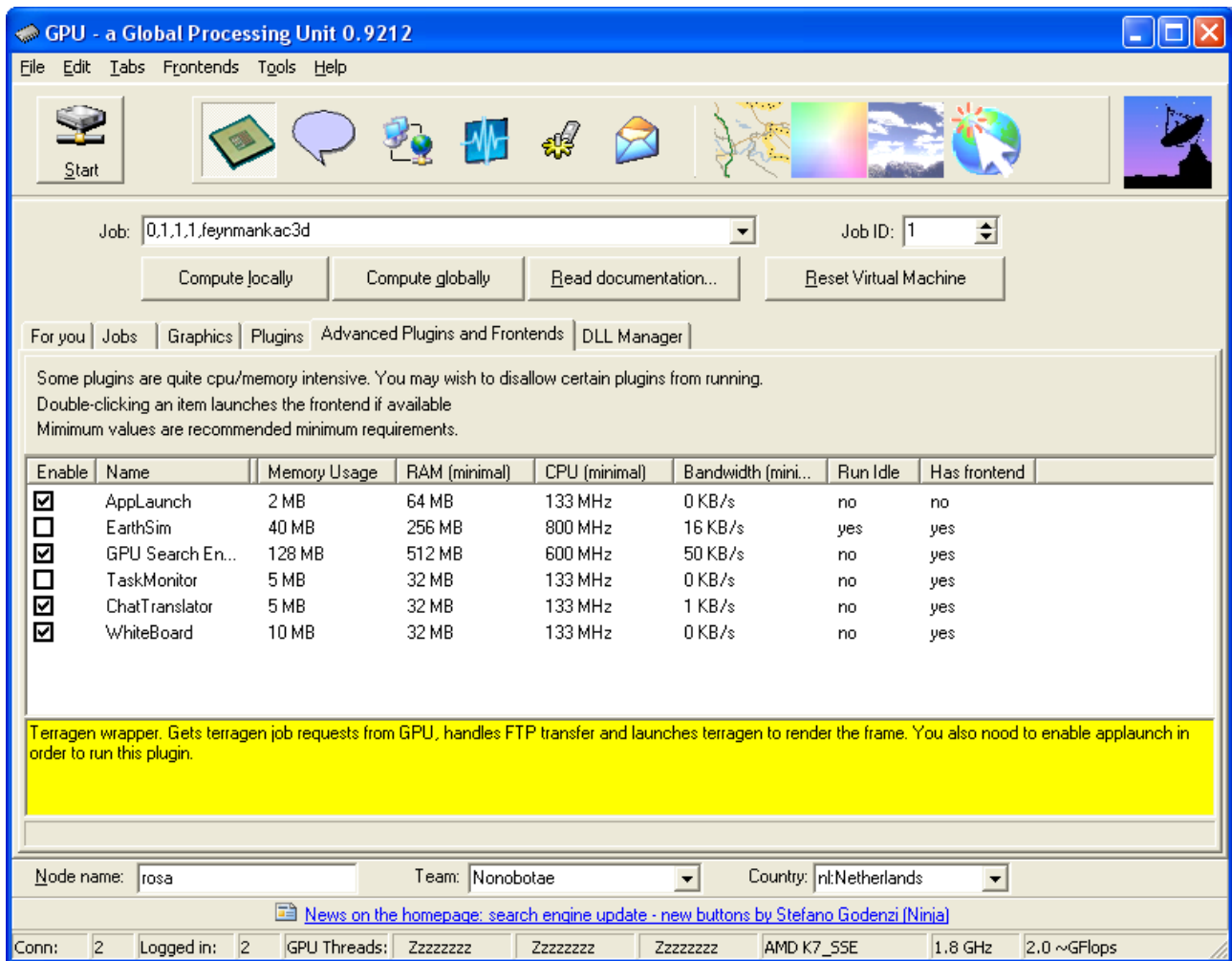
How to use applaunch?

Basically it goes like this.

```
(21:22:43:250 nl) gemini> there is one plugin, 'applaunch'. .  
(21:23:02:484 nl) gemini> if you place a binary in the 'binexec' directory, .  
(21:23:20:890 nl) gemini> and call applaunch with it as gpu command, like: .  
(21:23:44:875 nl) gemini> 3,2,1,'mybinary',applaunch .  
(21:24:02:437 nl) gemini> then gpu will execute %GPU%\binexec\mybinary.bat|exe "1" "2" "3" .  
(21:24:46:609 nl) gemini> and wait for the process to terminate .  
(21:24:56:359 nl) gemini> and return the exit code of the process to the user. .
```

Those steps will be repeated in next section guided with screen shots.

Enable the applaunch plugin



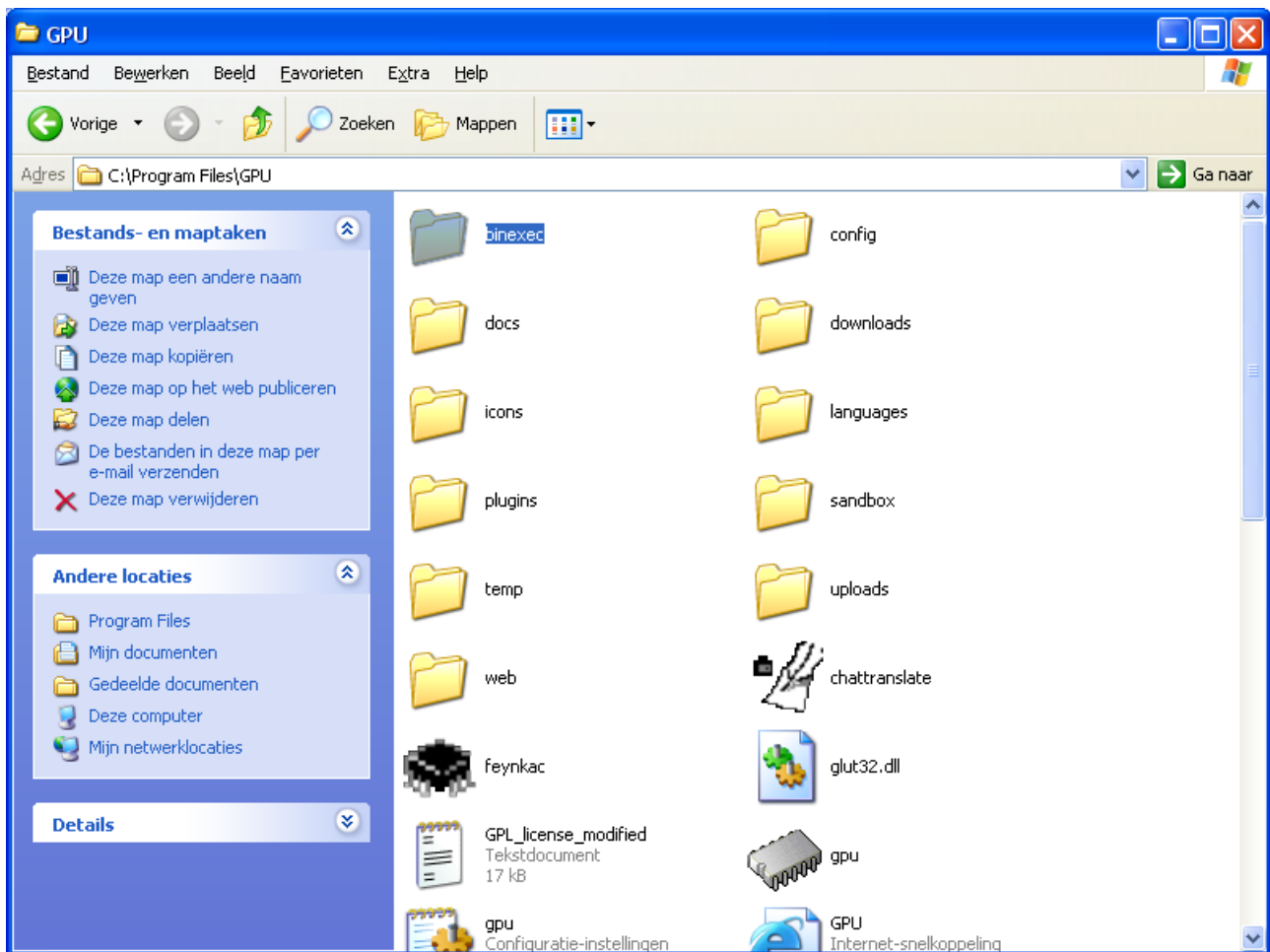
The screenshot shows the GPU - a Global Processing Unit 0.9212 interface. The 'Plugins' tab is selected, displaying a table of installed plugins. The 'AppLaunch' plugin is checked under the 'Enable' column. Below the table, a yellow box contains a warning message about the Terragen wrapper.

Enable	Name	Memory Usage	RAM (minimal)	CPU (minimal)	Bandwidth (mini...	Run Idle	Has frontend
<input checked="" type="checkbox"/>	AppLaunch	2 MB	64 MB	133 MHz	0 KB/s	no	no
<input type="checkbox"/>	EarthSim	40 MB	256 MB	800 MHz	16 KB/s	yes	yes
<input checked="" type="checkbox"/>	GPU Search En...	128 MB	512 MB	600 MHz	50 KB/s	no	yes
<input type="checkbox"/>	TaskMonitor	5 MB	32 MB	133 MHz	0 KB/s	no	yes
<input checked="" type="checkbox"/>	ChatTranslator	5 MB	32 MB	133 MHz	1 KB/s	no	yes
<input checked="" type="checkbox"/>	WhiteBoard	10 MB	32 MB	133 MHz	0 KB/s	no	yes

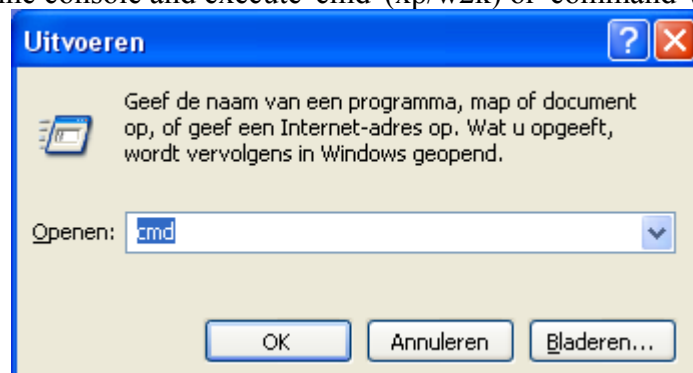
Terragen wrapper. Gets terragen job requests from GPU, handles FTP transfer and launches terragen to render the frame. You also need to enable applaunch in order to run this plugin.

Make sure the check box 'Enable' is checked. Applaunch itself has- no front end

Now we explore the GPU directory, and enter the binexec directory:



We start a command line console and execute 'cmd' (xp/w2k) or 'command' (win9x):



Type 'cd'<space> and drag and drop the folder name on your console's prompt. Then launch the editor with "edit filename":

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [versie 5.1.2600]
Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\rene>cd "C:\Program Files\GPU\binexec"
C:\Program Files\GPU\binexec>edit test1.bat
C:\PROGRA~1\GPU\binexec>
```

Now, we will make a very simple batch file. It asks the user for input.

```
C:\WINDOWS\system32\cmd.exe - edit test1.bat
Bestand  Bewerken  Zoeken  Beeld  Opties  Help
C:\Program Files\GPU\binexec\test1.bat
Echo off
rem Query user, set input in environment variable "userinput"
set /P userinput=Enter a number:
rem finish, set exit code by using environment variable errelevel:
exit %userinput%
F1=Help | Regel:1 Kol:1
```

Now we are finished and tested our bat, we are ready to launch it from within gpu.

We look for the gpu commands tab, and enter

'test1', launch

Note that we omit the .bat extension.

Note that hiding the application is not a job of applaunch. The application has to do that itself.

However, applaunch will minimize it. Running it will launch a dos-like window on your taskbar:



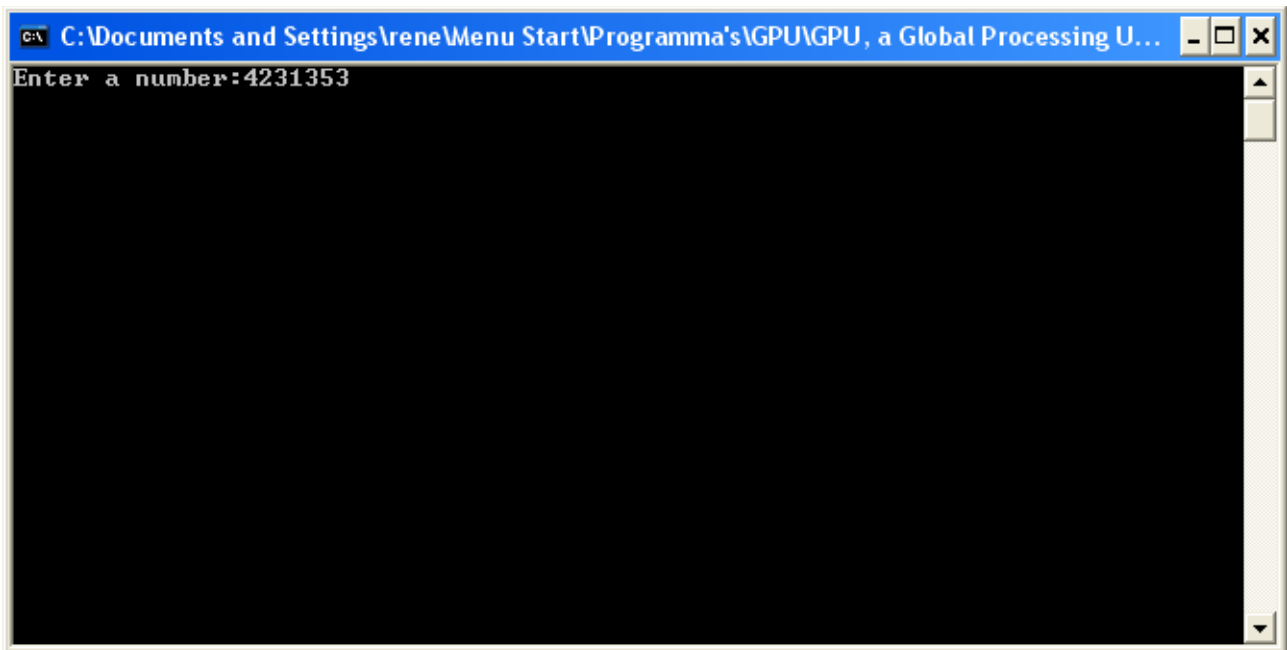
GPU will show up the results:

ID	GPU Packet	Status	Time (start/co...	Result	Incoming ...	Type	Gl
6	'test1'.launch	Computing...	21:57:47		2734	for you	
1...	'stones',terragrid	Finished	00:00:00	-7	2740	for you	
1...	MHz	Finished	00:00:00	1833	2741	for you	

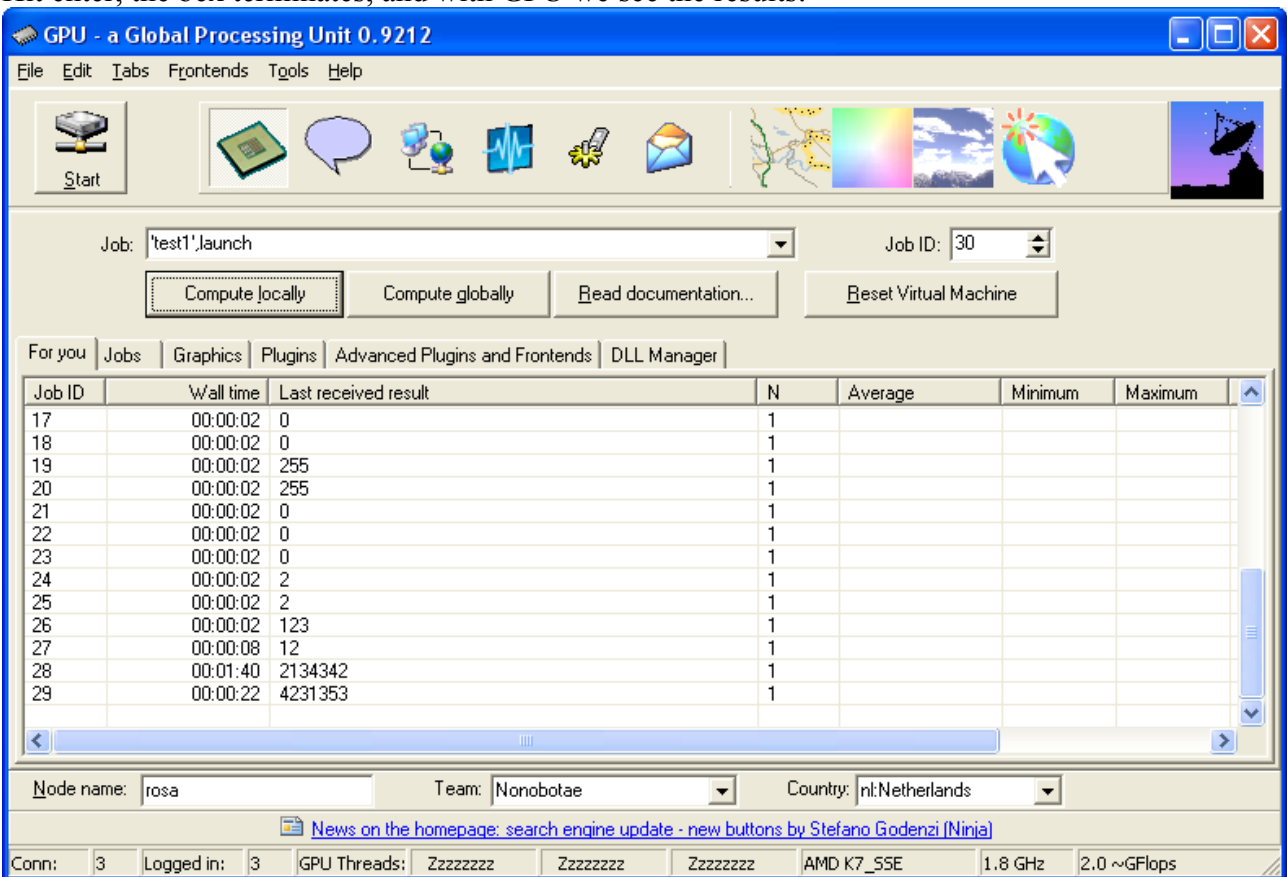
As you can see, it is computing . Waiting for the job to complete. That is true, because just a command prompt showed up, asking us something:

```
Enter a number:
```

We enter an answer:



Hit enter, the box terminates, and with GPU we see the results:



Batch files and application can handle 32-bit exit codes. Some exit codes are “reserved”. A batch file with an error will return 255. If all is well and you use no exit code, it defaults to zero (0).

Now all that is left is copy your application to multiple hosts, and perform the same command, but hit the ,compute globally, button instead. All nodes with this plugin installed would prompt the user

for input.

Of course, there can a lot be done. I am not a batch guru, but they may be convenient. Any application can be run like this. If the application has no native support, you may need a wrapper, that down- &upload the data files and parses commands or scripts to the actual job. However, the possibilities are endless.

For optimal performance, think of many many small jobs, a dll may be more suitable then calling an executable. Compare that to running php as isapi dll or in cgi mode.