

Third Party Software: How do I install the AMD FirePro GPU Driver on Bright?

How do I install the AMD FirePro GPU Driver on Bright?

The AMD FirePro GPU driver can be installed, and the OpenCL feature checked, on Bright Cluster Manager as follows:

Download

Download the correct version of "AMD FirePro Software Suite" for your AMD graphic hardware from the AMD web site: <http://support.amd.com/en-us/download>

For AMD FirePro S9150 use:

<http://www2.amd.com/drivers/firepro/14.502.1040-linux-cert-retail.zip>

Generate the installation package

On the Head Node unzip the downloaded packet:

```
[root@headnode1 ~]# unzip 14.502.1040-linux-cert-retail_end_user.zip
```

Enter in the packet folder and run the following command to list all the generatable packages:

```
[root@headnode1 ~]# ./amd-driver-installer-14.502.1040-x86_x86_64.run --listpkg
```

```
=====
```

```
AMD Catalyst(TM) Proprietary Driver Installer/Packager
```

```
=====
```

```
List of generatable packages:
```

```
[ ]
```

```
Package Maintainer(s): AMD
```

```
Status: Verified
```

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RedHat Packages:

RedHat/RHEL5_64a

RedHat/RHEL6_64a

RedHat/RHEL7_64a

RedHat/RHEL5

RedHat/RHEL6

RedHat/RHEL7

[...]

Run the following command to generate the packages for you Linux version:

```
[root@headnode1 ~]# ./amd-driver-installer-<version>-<architecture>.run --buildpkg <Linux Distribution/Version> --NoXServer
```

For example, to build a RHEL7x64/CentOS7x64 package, run the following:

```
[root@headnode1 ~]# ./amd-driver-installer-14.502.1040-x86_64.run --buildpkg RedHat/RHEL7_64a --NoXServer
```

```
=====
```

```
AMD Catalyst(TM) Proprietary Driver Installer/Package
```

```
=====
```

```
Generating package: RedHat/RHEL7_64a
```

```
Package /root/fglrx-14.502.1040/fglrx64_p_1_c-14.301.1019-1.x86_64.rpm has been successfully generated
```

```
Removing temporary directory: fglrx-install.OevOB7
```

Installation

Login into the Head Node, then run the following commands to:

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1. Create new softwareimage
2. Create new category
3. Install the package into a new softwareimage
4. Assign the new category to the Compute Node
5. Finalize installation on the Compute Node

```
[root@headnode1 ~]# cmsh

% softwareimage clone default-image amd-gpu-image

% commit

% category add amd-gpu

% set softwareimage amd-gpu-image

% commit

% quit

[root@headnode1 ~]# yum --installroot=/cm/images/amd-gpu-image/ install fgfrx64_p_1_c-14.502.1040-1.x86_64.rpm

[root@headnode1 ~]# cmsh

% device use node001

% set category amd-gpu

% commit

% reboot

% quit

[root@headnode1 ~]# ssh node001

[root@node001 ~]# cd /lib/modules/fgfrx/build_mod

[root@node001 ~]# ./make.sh

[root@node001 ~]# cd /lib/modules/fgfrx

[root@node001 ~]# ./make_install.sh

[root@node001 ~]# exit

[root@headnode1 ~]# cmsh
```

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```
% device  
  
% grabimage -w -i amd-gpu-image node001  
  
% quit
```

Test Installation

Login into the Head Node, then run the commands below to check the installation:

```
[root@headnode1 ~]# ssh node001  
  
[root@node001 ~]# rpm -qa | grep fglnx  
  
fglnx64_p_i_c-14.502.1040-1.x86_64  
  
[root@node001 ~]# dinfo | grep GPU  
  
Device Type: CL_DEVICE_TYPE_GPU  
  
[root@node001 ~]# lsmod | grep fglnx  
  
fglnx 9522071 0  
  
amd_iommu_v2 19054 1 fglnx
```

Testing OpenCL

Download the AMD Accelerated Parallel Processing ("APP") package from:

<http://developer.amd.com/tools-and-sdks/opencl-zone/amd-accelerated-parallel-processing-app-sdk/>

Choose the appropriate .tgz file, agree to the license and start the download.

Then, login into the head node, and run the following commands, and run the demo code as indicated:

```
[root@headnode1 ~]# mkdir /cm/shared/apps/amdgpu
```

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```
root@headnode1 ~-# cd /cm/shared/apps/amdgpu/

root@headnode1 amdgpu# tar -jxvf AMD-APP-SDK-linux-v2.9-1.599.381-GA-x64.tar.bz2

root@headnode1 amdgpu# curl https://codeload.github.com/hpc12/tools/tar.gz/master | tar xvzf -

root@headnode1 amdgpu# ssh node001

root@node001 ~-# cd /cm/shared/apps/amdgpu/

root@node001 ~-# ./AMD-APP-SDK-v2.9-1.599.381-GA-linux64.sh

Do you accept the licence (y/n)? y

AMD APP SDK v2.9-1 will be installed for all users.

Enter the Installation directory. Press ENTER for choosing the default directory: /opt/

root@node001 ~-# cd tools-master/

root@node001 ~-# make OPENCL_INC=/opt/AMDAPPSDK-2.9-1/include/ OPENCL_LIB=/opt/AMDAPPSDK-2.9-1/lib/x86_64/

root@node001 ~-# ./print-devices

platform 0: vendor 'Advanced Micro Devices, Inc.'

device 0: 'Hawaii'

device 1: 'AMD Athlon(tm) II X2 245 Processor'

root@node001 ~-# ./cl-demo 1000000 10

Choose platform:

[0] Advanced Micro Devices, Inc.

Enter choice: 0

Choose device:

[0] Hawaii

[1] AMD Athlon(tm) II X2 245 Processor

Enter choice: 1

-----

NAME: AMD Athlon(tm) II X2 245 Processor
```

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VENDOR: AuthenticAMD

PROFILE: FULL_PROFILE

VERSION: OpenCL 1.2 AMD-APP (1573.4)

...

*** Kernel compilation resulted in non-empty log message.

*** Set environment variable CL_HELPER_PRINT_COMPILER_OUTPUT=1 to see more.

*** NOTE: this may include compiler warnings and other important messages

*** about your code.

*** Set CL_HELPER_NO_COMPILER_OUTPUT_NAG=1 to disable this message.

0.008372 s

1.433417 GB/s

GOOD

Unique solution ID: #1286

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