

## How to install the Driver and run the GUPs application (using pre-loaded/built bits)

### Prerequisite:

- The driver install requires the kernel-devel and gcc rpms to be installed. The driver install compile utilizes the kernel source headers that come with the kernel-devel package.

### Required:

- merlin\_driver\_proprietary\_rXXXX.tar (all driver .rpm files for Centos/RedHat systems)
- merlin\_driver\_gpl\_gnu\_rXXXX.tar (all driver .rpm files for Centos/RedHat systems)
- gups\_prebuilt\_bits\_openHT-XXXXXXXXX.tgz (pre-built gups bitfiles/app/personalities dir)

### Procedure:

- 1) Copy the contents of both DVDs into a directory on the system.
- 2) Untar the contents and copy all of the \*.rpm's into one directory.

For the driver you should have a set of at least: (exact revisions may not match)

- micron-wdm-billsutils-0.3-1943M.x86\_64.rpm
- micron-wdm-devel-0.3-1943M.x86\_64.rpm
- micron-wdm-module-0.3-1943M.x86\_64.rpm
- micron-wdm-runtime-0.3-1943M.x86\_64.rpm
- micron-wdm-graphics-0.3-1943M.x86\_64.rpm
- micron-wdm-wxpp-0.3-1943M.x86\_64.rpm

- 3) After installing the Merlin pcie card in the host, install our driver (compatible with either Redhat or Centos linux).

- cd into the directory where the software was copied.
- yum --nogpgcheck localinstall micron-wdm-\*.rpm
- chkconfig --add merlin
- service merlin status
- \*\*if needed – service merlin [stop|start]

- 4) Run wxinfo you should see the card and its state along with the personality loaded on it.

(65000.1.1.8.0 is the signature of the gups personality)

➤ wxinfo

Logical	Physical	State	Arch	CoProc#	Mem Size	Owner	Signature
wxcp0	wxpfwa0	Enabled	MERLIN_A1	0	4G/4G		65000.1.1.8.0

- 5) Run wxinfo -t to see the power and temperature the card is drawing

➤ Wxinfo -t

Physical device wxpfwa0 Logical Device wxcp0 Coproc\_num 0

Temperature and Power Information:

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hix 34.00°C curr 34.00°C min 35.00°C max

hix 42.98 watts

- 6) Now, to run the gups bitfile that is pre-loaded on the fpga from the primary flash slot, install the gups executable by untarring the pre-built gups app into /opt/convey/gups\_prebuilt
- 7) cd /opt/convey/gups\_prebuilt

- 8) `setenv CNY_PERSONALITY_PATH /opt/convey/gups_prebuilt/personalities`
- 9) Launch the application  
    `gups_prebuilt> ./app` (use this to launch a single instance – **always for a ma-100**)  
    or  
    `gups_prebuilt> ./run_4fork.pl` (forks 4 instances of gups across 4 FPGA coprocessors-for ma-400)
- 10) Check results.  
    `gups_prebuilt> grep -i average hpccoutf.txt`  
    expected results are ~0.164 billion gups