How to install Cell SDK 2.0 with YDL (Yellow Dog Linux)

The following instructions install Cell SDK 2.0 on a PS3 running YDL (Yellow Dog Linux).

1. Download the Cell SDK 2.0 from IBM alphaWorks. The download is in the form of an ISO (`CellSDK2.0.iso`). You can burn a CD from the ISO and mount the CD on the PS3:

```
2.      mkdir /mnt/cellsdk
      mount /dev/cdrom /mnt/cellsdk
```

   or mount the ISO directly:

```
     mount -o loop CellSDK20.iso /mnt/cellsdk
```

3. Remove Cell SDK 1.1 if it is already installed:

```
      yum groupremove "Cell SDK" "Cell Libraries"
```

4. Check that prerequisite software packages are installed, and install any software that is missing:

```
5.      cd /mnt/cellsdk/software
      ./cellsdk depend
```

   The common missing packages are `freeglut-devel` and `netpbm-devel`. They can be installed as follows:

```
      yum install freeglut-devel netpbm-devel
```

6. Install Cell SDK 2.0. The installation will require that you install the Cell Broadband Engine Kernel 2.18. You should install the kernel, but if you are using YDL with kernel 2.6.16-0, you don't need to boot the new kernel.

```
      ./cellsdk install --nosim -f
```

   The `--nosim` flag skips the installation of the Cell System Simulator and System Image since the SDK will be installed directly on PS3 hardware. The `cellsdk` script will fetch additional packages necessary to complete the SDK installation. The SDK toolchain is installed in `/opt`.

7. Build the libraries, and sample example codes, preferably using the IBM xlc compiler:

```
./cellsdk build -x
```

If you prefer to use GNU gcc, omit the `-x` flag.

Troubleshooting:

- If `yum` is not working for you, verify that the repository is configured properly.

- If you encounter the error
- `/opt/ibmcmp/xlc/8.1/exe/ipa: error while loading shared libraries: libstdc++.so.6:`
- `cannot open shared object file: No such file or directory`

  add the `stdc++` library to your `LD_LIBRARY_PATH`.

  ```
  setenv LD_LIBRARY_PATH /usr/lib/gcc/ppu/4.1.1/ # if you are using tcsh
  export LD_LIBRARY_PATH=/usr/lib/gcc/ppu/4.1.1/ # if you are using bash
  ```

  You may need to add the `export` statement to `cellsdk` if you encounter the problem during the SDK build.

- If you encounter the error

  ```
  /usr/bin/ld: cannot find -lXmu
  ```

  add a link form `/usr/lib/libXmu.so.6` to `/usr/lib/libXmu.so`:

  ```
  cd /usr/bin
  ln -s /usr/lib/libXmu.so.6 /usr/lib/libXmu.so
  ```

- If you encounter the error

  ```
  /usr/bin/ld: skipping incompatible /usr/lib/libglut.so when searching for -lglut
  ```

  then you are on your own. If you manage to figure out a solution, please let us know.