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Introduction

The main goal of this guide is to use the FlashSim simulator as described here:

<http://csl.cse.psu.edu/?q=node/322>

This guide assumes that all steps to setup DiskSim 3.0 were done according to the following guide:

http://www.pdl.cmu.edu/DiskSim/Compiling_DiskSim3.0_v1.0.pdf

Once you have DiskSim 3.0 successfully running per the above guide, use the instructions in this doc to get FlashSim compiled and running.

Helpful Links

DiskSim Users Email list

<https://sos.ece.cmu.edu/mailman/listinfo/disksim-users>

Ajay's Guide for DiskSim

<http://www.cs.rice.edu/~gulati/>

Original DiskSim Website

<http://www.pdl.cmu.edu/DiskSim/>

Using FlashSim with DiskSim 3.0

<http://csl.cse.psu.edu/?q=node/322>

Compiling DiskSim 3.0

http://www.pdl.cmu.edu/DiskSim/Compiling_DiskSim3.0_v1.0.pdf

Environment

See the Compiling DiskSim 3.0 guide.

Software

See the Compiling DiskSim 3.0 guide.

Procedures

1. Install indent:

```
sudo apt-get install indent
```
2. Verify that the indent is installed (I installed version 2.2.10-3):

```
indent --version
```

#Output on screen shows: GNU indent 2.2.10
3. Download the src.release.20101205.tar.gz.

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Note: The original files from `src.release.jontjioe.tar.gz` can be downloaded here: <http://csl.cse.psu.edu/?q=node/322>. The reason why I re-packaged is because with this new package (`src.release.20101205.tar.gz`), the patch that was made by Khalifa Rouis has already been run. Additionally, there were about 15-20 lines that had `fprintf` statements that were spanned across multiple lines. I joined the lines for these statements so that FlashSim was able to compile successfully. By repackaging it, you do not have to modify these files again.

Note: In all steps below, replace `"/home/jontjioe/disksim/disksim-3.0"` with the path to your diskSim installation.

4. Save the current `src` directory in DiskSim 3.0.

```
cd /home/jontjioe/disksim/disksim-3.0
mv src src.orig
```

5. Extract the FlashSim `src` directory (contains DiskSim 3.0 and FlashSim source files) to your `diskSim` directory.

```
cp src.release.20101205.tar.gz /tmp
cd /tmp
gunzip src.release.20101205.tar.gz
tar -xvf src.release.20101205.tar
mv src.release.20101205.tar /home/jontjioe/disksim/disksim-3.0/src
```

Note: You should now have the new `src` directory in your `diskSim-3.0` directory.

6. Update the `.paths` and `.paths.in` files inside the `src` directory to have your `diskSim` directory.

```
export DISKMODEL_PREFIX=/home/jontjioe/disksim/disksim-3.0/diskmodel
export LIBPARAM_PREFIX=/home/jontjioe/disksim/disksim-3.0/libparam
export LIBDBG_PREFIX=/home/jontjioe/disksim/disksim-3.0/libdbg

cp .paths.in .paths
```

7. Compile the `src` directory.

```
make
```

8. Download the `test.release.tar.gz` from here:

<http://csl.cse.psu.edu/?q=node/322>

9. Extract the FlashSim `test` directory to your `diskSim` directory.

```
cp test.release.tar.gz /tmp
cd /tmp
gunzip test.release.tar.gz
tar -xvf test.release.tar
mv test.release /home/jontjioe/disksim/disksim-3.0/test
```

Note: You should now have the new `test` directory in your `diskSim-3.0` directory.

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10. Verify that FlashSim is running properly.

```
cd /home/jontjioe/disksim/disksim-3.0/test  
./runtest
```

You should see the following output on the screen if it is working:

```
Running Pagemap FTL...  
IOdriver Response time average: 0.429880  
IOdriver Response time std.dev.:0.802131  
Running DFTL...  
IOdriver Response time average: 0.609340  
IOdriver Response time std.dev.:1.513767  
Running FAST...  
IOdriver Response time average: 3.189379  
IOdriver Response time std.dev.:23.326385
```