Testers' Documentation

Abstract

This document aims to help beta-testers and new users on compilation and evaluation of CompBenchmarks software. A short chapter also introduces which kind of feedback may be useful to improve overall quality.

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1 Requirements

If you choose to test the latest release of CompBenchmarks (0.5.0), you will need :

- The tarball archive, available on SourceForge project's page[1],
- A supported operating system : Linux, Windows (with Cygwin[2]) or FreeBSD.
- A recent Perl interpreter version (tested with 5.8.8),
- A g++ compiler with a complete compilation suite including GNU make, and optionally[3] some programs from said the autotools – that is to say aclocal, libtool, autoconf and automake.

A minimal UNIX/command line knowledge should be sufficient, since I've tried to be as exhaustive as possible. Following chapters detail ./configure && make && make test process. If you're already familiar with that, do these steps the usual way (don't make install, that's useless), and jump to 3 Usage overview.

Notice than bugs are tracked on SourceForge[4]; it may not necessary to report them all if they are already referenced.

1.1 Quick start

Commands given in this document won't install anything on your system. This is a kind of summary of what is explained at http://compbench.sourceforge.net/cgi-bin/doc.cgi?tab=package&topic=start .
Whole stuff is kept in compilation directory (except for the ~/.compbenchmarks directory, which just stores downloaded benchmarks, status and other internal information).

Once compbenchmarks-0.5.0.tar.gz retrived, you can extract it the usual way and as a normal user :

```
# tar xzvf path/to/tarball/compbenchmarks-0.5.0.tar.gz
```

Then, following may works :

1 Look at http://sourceforge.net/project/showfiles.php?group_id=150828&package_id=166676
2 See http://www.cygwin.com
3 Only needed if you want/have to modify files describing the compilation process, like configure.in or the Makefile.am.
4 http://sourceforge.net/pm/task.php?group_project_id=49128&group_id=150828&func=browse

```
# cd compbenchmarks-0.5.0
# ./configure
```

And should end with something like :

```
compbenchmarks 0.5.0-BETA3
CXX              : g++
CXFLAGS          : -Wall -pedantic -O2 -g
XML_LIBS         : -L/usr/lib -lxml2
XML_CPPFLAGS     : -I/usr/include/libxml2

System           : CBM::SystemLinux
```

If not, issue may have two causes :

- You don't have all dependencies installed (see 1.2 Dependencies),
- One dependency has not been (correctly) identified. Feedback is more than welcome in this case.

When things work, jump to 2 Compilation.

1.2 Dependencies

You will also need to satisfy following program's dependencies (http://compbench.sourceforge.net/cgi-bin/doc.cgi?tab=package&topic=start is probably more up-to-date) :

1. swig[5], the Simplified Wrapper and Interface Generator (1.3.29 or above),
2. Both python and python-dev (2.4.4 or above),
3. Both libxml2 and libxml2-dev (2.6.16 or above),
4. tar (1.14-2.2 or above),
5. gzip (1.3.5 or above),
6. unzip (5.52 or above),
7. grep (2.5.1 or above),
8. patch (2.5.9 or above),
9. bzip2 (1.0.2 or above),
10. make (3.80 or above), and, finally,
11. wget (1.9.1 or above).

Some distributions, like Mandriva, also need perl-devel (5.8.8 or above).

5 Project home is http://www.swig.org/

See the documentation of your distribution to get clues on how to install these pre-packaged programs.

2 Compilation

If configuration mechanism succeeded, just keep in the source's directory and type:

```
# make
```

If an error or a warning is reported, you can contact me and provide your distribution, compiler, and exact error/warning message. I'll try to do my best to fix it.

Finally, you can launch the automated test suite :

```
# make test
```

If a test fails, I may also take a look. Just give me information by e-mail.

3 Usage overview

Package is not installed but it is usable. To the end-user, CompBenchmarks consists of two programs : compbenchmarks-core and compbenchmarks-plan.

Former can install[6] benchmarks, investigate compiler options' compatibility or dependencies, and, finally run individual benchmarks.

compbenchmarks-plan allows you to select bunch of compilers, compilation options and benchmarks and evaluate their performances.

6 Download, checksum, extract and optionally prepare. All operations are done in ~/.compbenchmarks directory.

3.1 compbenchmark-core : basic functionalities

This chapter has been deprecated by http://compbench.sourceforge.net/cgi-bin/doc.cgi?tab=package&topic=cbm-core .

3.2 compbenchmark-plan

Like said earlier, compbenchmarks-plan allows you to select bunchs of compilers, compilation options and benchmarks and evaluate the compilers or/and options relative performances.

Such selections are called a plan. Well, as, basically, the terminology is the key here. I'll will try to expose some terms first.

A plan consists of some plan specific parameters and of some objects called batchs. Each batch references a set of compilers, some benchmarks, and one or more option set. Option set is basically a list of options. And each options object is a list of options[7].

3.2.1 Defining a simple plan

This chapter has been deprecated by http://compbench.sourceforge.net/cgi-bin/doc.cgi?tab=package&topic=cbm-plan .

3.2.2 One step beyond

The plan defined in 3.2.1 Defining a simple plan is quite straightforward. A good test would be to create a more complex one, with many benchmarks or many option objects[8].

7 Don't get confused : an options object is different from a list of options. A list of options is just an ordered bunch of options that will be used together. An options object stores a list of options that will be used in turn. Maybe that'd need a more clear explanation ?

8 Warning, incompatible options within an option objects are not checked, see http://sourceforge.net/pm/task.php?func=detailtask&project_task_id=141918&group_id=150828&group_project_id=49128

4 Conclusion

I hope you've found this document helpful. Don't hesitate to give me feedback or comments about it, as well as on any bug you are confronted with[9]. I'd also especially appreciate ideas to improve CompBenchmarks.

Next significant change will be the publication of the Qt-4.x GUI (actually being developed) for dealing with all this stuff more conveniently.

Regards,

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9 As a reminder, following URL references all bugs already reported : http://sourceforge.net/pm/task.php?group_id=150828&group_project_id=49128&func=browse&set=open

5 Appendix

5.1 Document's history

Version (date)	Changes
2007-09-25	Minor modification on 1 Requirements and 1.2 Dependencies (Perl related). Knowledge base -A option detailed in 3.1.3 Query samples. Many chapter have moved to site documentation. Updated for 0.5.0 release.
2007-09-05	Initial version.