

GDB : The GNU Debugger

Austin LUG
October, 2008

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Some questions to consider

- I. Why do programs crash?
- II. How can one tell what a program is doing?

I. *Why do programs crash?*

Bad or unexpected user provided data.

Bad memory management.

In sufficient system resources.

2. How can one tell what a program is doing?

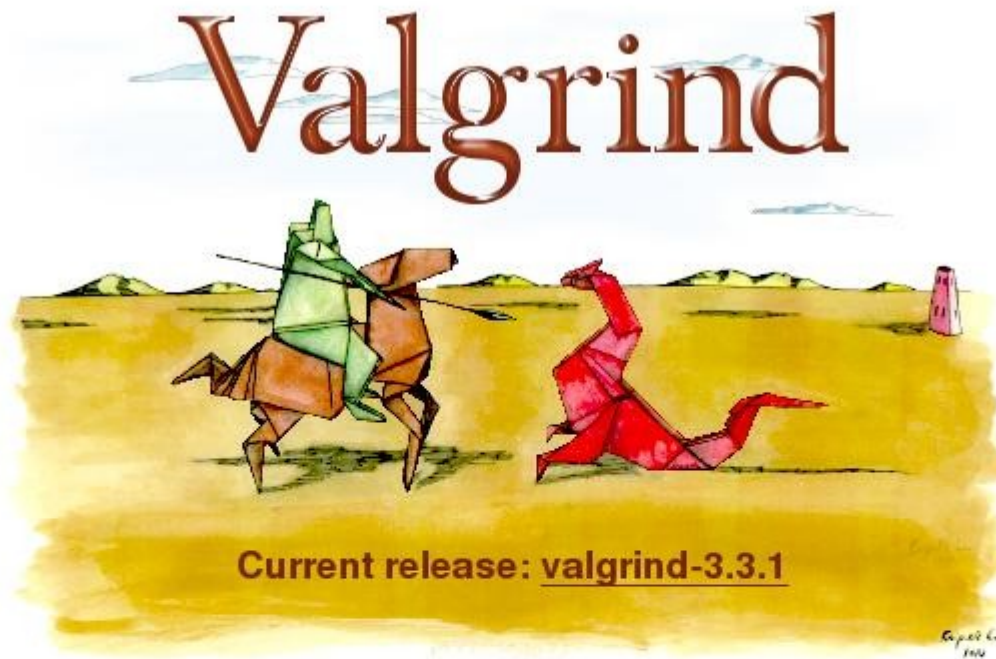
Print statements

Use system commands

Use a debugger



www.valgrind.org



Valgrind is an award-winning instrumentation framework for building dynamic analysis tools. There are Valgrind tools that can automatically detect many memory management and threading bugs, and profile your programs in detail. You can also use Valgrind to build new tools.

The Valgrind distribution currently includes five production-quality tools: a memory error detector, a thread error detector, a cache and branch-prediction profiler, a call-graph generating cache profiler, and a heap profiler. It also includes two experimental tools: a data race detector, and an instant memory leak detector. It runs on the following platforms: X86/Linux, AMD64/Linux, PPC32/Linux, PPC64/Linux.