Tools for C and C++ - hands on

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Outline

- compiling basics
- cputicks (rdtsc)
- valgrind
- google-perftools
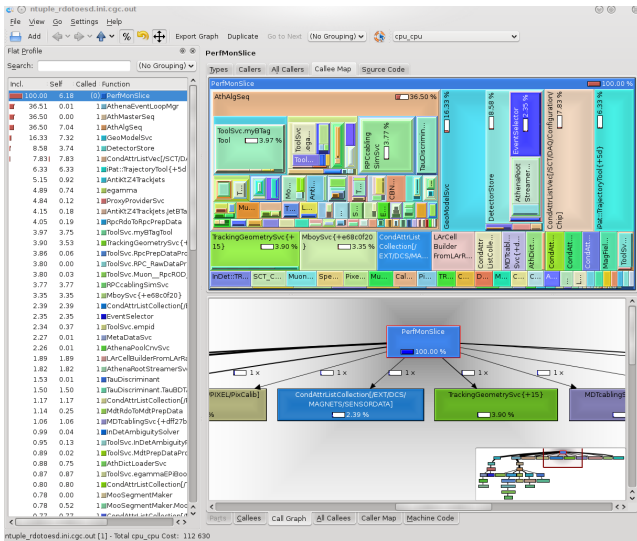- linux perftool

Bootstrap

- log on a node

```
ssh user@intelnode
ssh user@amd1node
ssh user@amd2node
```
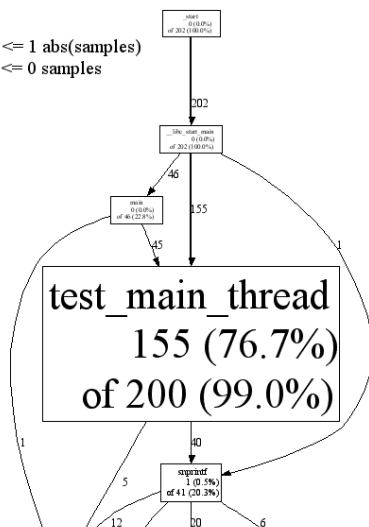
- everything should be under /srv/data/cxx-tuto
    - /srv/data/cxx-tuto/doc/{basic,c++}/index.rst
    - /srv/data/cxx-tuto/exercises/{basic,c++}

- basic: test out a few tools (valgrind, google-perftools, perf)
- c++: test out a few c++ overhead constructs and "good to know" trivias about c++

Valgrind

http://valgrind.org

Google-perftools

http://code.google.com/p/gperftools

/tmp/profiler2_unittest
Total samples: 202
Focusing on: 202
Dropped nodes with <= 1 abs(samples)
Dropped edges with <= 0 samples

Linux perf

https://perf.wiki.kernel.org/

```
# Events: 3K cycles
#
# Overhead    Command      Shared Object     Symbol
# ........   ..........   ................   ......
#
    34.05%   gprof-test   gprof-test         [.] sub1(long)
    27.83%   gprof-test   gprof-test         [.] sub3(long)
     9.59%   gprof-test   [kernel.kallsyms]  [k] raw_local_irq_
     6.89%   gprof-test   [kernel.kallsyms]  [k] clear_page_c
     2.86%   gprof-test   [kernel.kallsyms]  [k] raw_local_irq_
     2.38%   gprof-test   [kernel.kallsyms]  [k] unmap_vmas
     2.05%   gprof-test   gprof-test         [.] sub2(long)
     1.96%   gprof-test   [kernel.kallsyms]  [k] raw_local_irq_
```