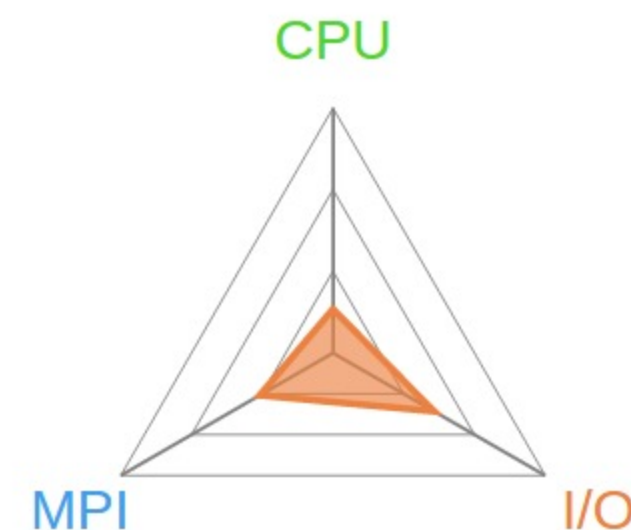


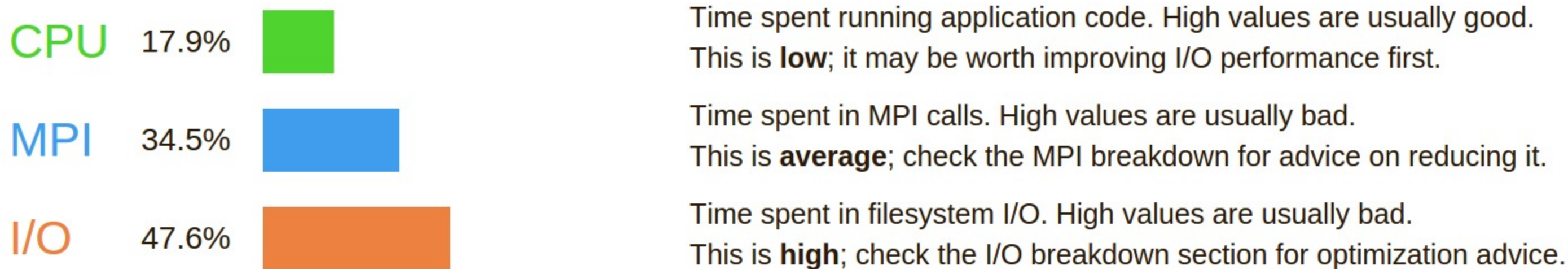


Executable: MADbench2
Resources: 9 processes, 1 node
Machine: sandybridge2
Start time: Mon Nov 4 12:26:45 2013
Total time: 11 seconds (0 minutes)
Full path: /tmp/MADbench2
Notes: 12-core server / HDD / 9 readers + writers



Summary: MADbench2 is I/O-bound in this configuration

The total wallclock time was spent as follows:



This application run was I/O-bound. A breakdown of this time and advice for investigating further is in the I/O section below.

CPU

A breakdown of how the 17.9% total CPU time was spent:



The per-core performance is **memory-bound**. Use a profiler to identify time-consuming loops and check their cache performance.

No time was spent in **vectorized instructions**. Check the compiler's vectorization advice to see why key loops could not be vectorized.

I/O

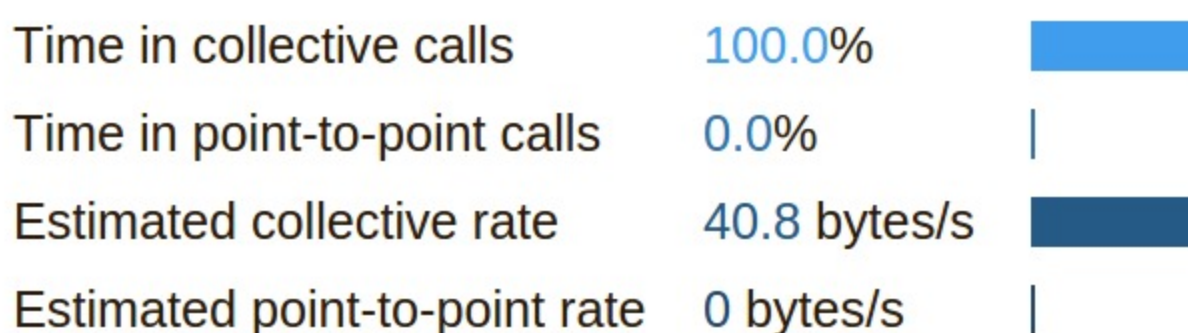
A breakdown of how the 47.6% total I/O time was spent:



Most of the time is spent in **write operations**, which have a low **transfer rate**. This may be caused by contention for the filesystem or inefficient access patterns. Use an I/O profiler to investigate which write calls are affected.

MPI

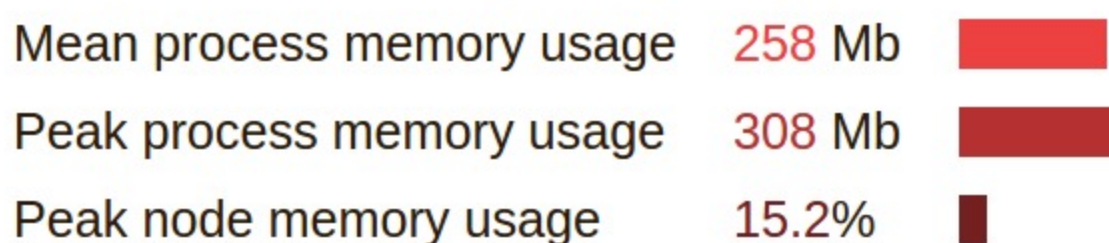
Of the 34.5% total time spent in MPI calls:



All of the time is spent in **collective calls** with a very low **transfer rate**. This suggests a significant load imbalance is causing synchronization overhead. You can investigate this further with an MPI profiler.

Memory

Per-process memory usage may also affect scaling:



The **peak node memory usage** is low. You may be able to reduce the total number of CPU hours used by running with fewer MPI processes and more data on each process.