SPEC2006 measurements and more

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What is done where

Hardware:

- Dual Irwindale 3.6GHz (64-bit) ➞ 2 cores
- Dual Woodcrest 2.66GHz (64-bit) ➞ 4 cores
- (Dual Clovertown 2.4GHz (64 bit) ➞ 8 cores)
  - no results in this presentation though...

Benchmark:

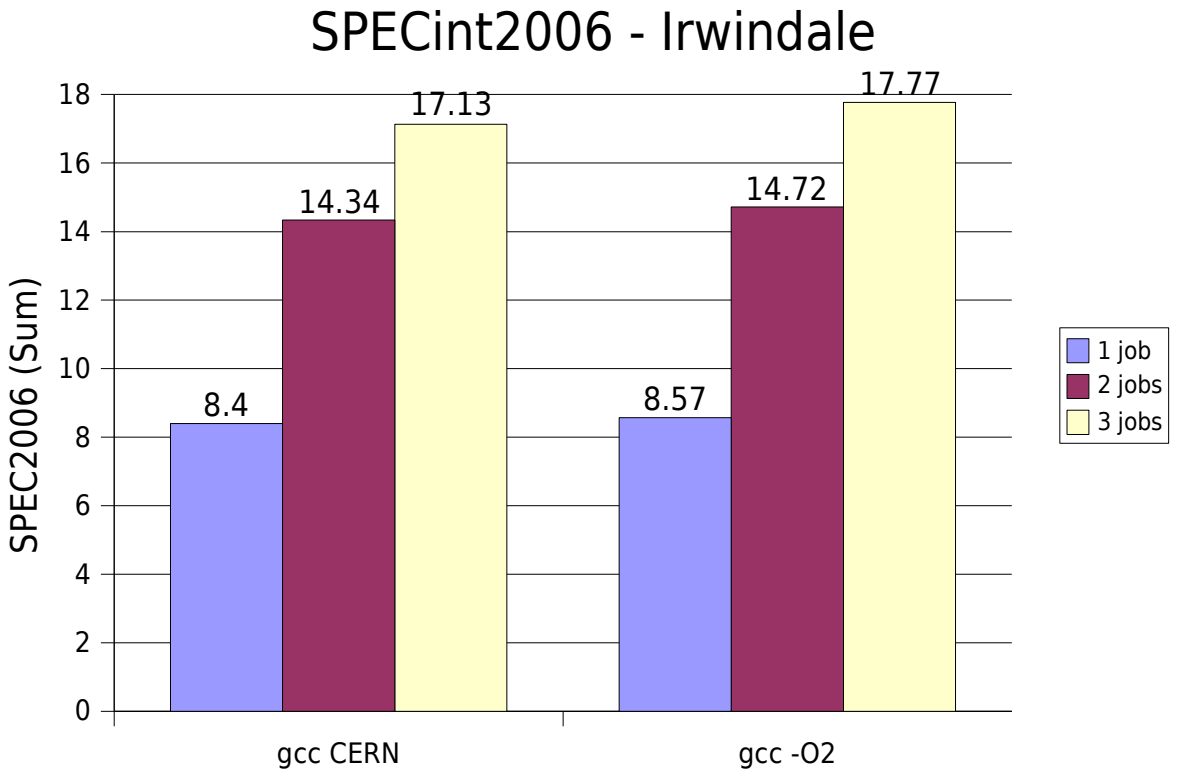
- SPEC2006 version 1.0
  - SPECInt with icc and gcc
  - SPECbase measurements
    - 1, 2, 4, n/2, n, 1.5*n parallel jobs, “manually” started
    - Benchmarks run independently – out-of-sync (n=# of cores)

First Impressions

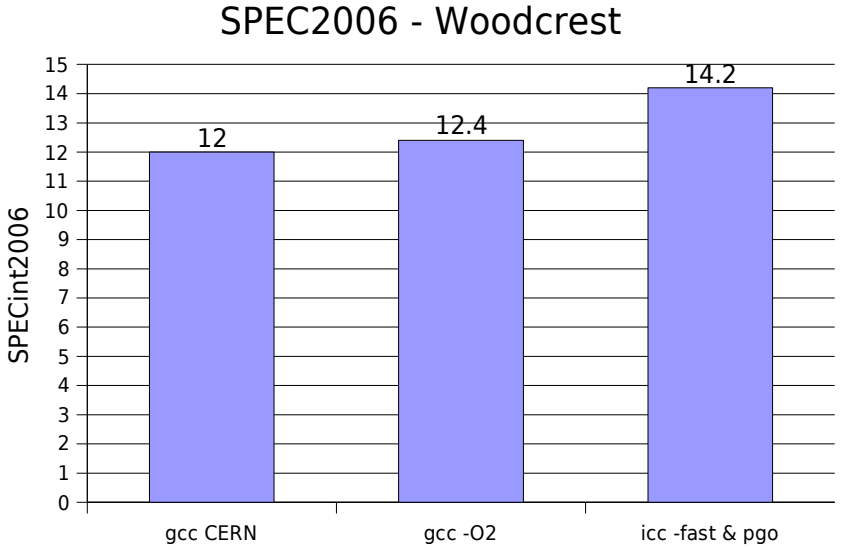
- It's huge ...
  - source is now 2.2GB
  - 6.6GB after a (single) complete compilation
- Works almost “out-of-the-box” on all tested platforms
- compile- and run-time significantly longer than for SPEC2000
  - factor 5-8 times longer ➞ main reason why I don't have many results
  - memory requirements increased ➞ 1.6GB per instance of *429.mcf*
    ➔ 2GB memory per core minimum
- ... but also stumbled upon first problems:
  - bug found in parser for the config file on Itanium
  - limit for the stack size has to be significantly larger than the default value for *483.xalancbmk* benchmark on Intel64 and icc with ipo&pgo
    - could actually help explain why the benchmark is so slow...

SPECint_2006 results

	gcc CERN	gcc -O2
400.perlbench	10.5	11.5
401.bzip2	8.6	8.57
403.gcc	8.11	8.2
429.mcf	7.57	7.58
445.gobmk	8.85	9.19
456.hmmer	8.06	8.07
458.sjeng	8.23	9.13
462.libquantum	15.3	15.4
464.h264ref	13.9	14
471.omnetpp	6.05	6.02
473.astar	6.55	6.52
483.xalancbmk	4.45	4.49



SPECint_2006 results



	gcc CERN	gcc -O2	icc -fast&pgo
400.perlbench	15.2	17.4	20.5
401.bzip2	13.4	13.5	13.6
403.gcc	10.4	10.5	10.6
429.mcf	10.1	10.2	16.1
445.gobmk	14.4	15.1	17.6
456.hmmer	10.1	10.1	13.7
458.sjeng	12.8	14	17.4
462.libquantum	16.4	16.3	16.5
464.h264ref	21.2	21.8	28.7
471.omnetpp	8.61	8.65	9.51
473.astar	9.65	9.85	11.1
483.xalancbmk	7.78	7.81	6.86