SPEC® CINT2006 Result
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SGI

SGI Altix UV 1000 (Intel Xeon X7542, 2.66 GHz)

$SPECint^®\_rate2006 =$ 8190

$SPECint\_rate\_base2006 =$ 7660

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Aug-2010
Hardware Availability: Jun-2010
Software Availability: Jun-2010

SPECint_rate_base2006 = 7660

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Benchmark	Copies	base	peak
400.perlbench	384	6930	8150
401.bzip2	384	4840	5180
403.gcc	384	5780	5760
429.mcf	384	9320	9370
445.gobmk	384	7040	7470
456.hmmer	384	12500	14600
458.sjeng	384	6860	7490
462.libquantum	384	19100	20200
464.h264ref	384	11700	12300
471.omnetpp	384	4310	4600
473.astar	384	4560	5000
483.xalancbmk	384	8500	
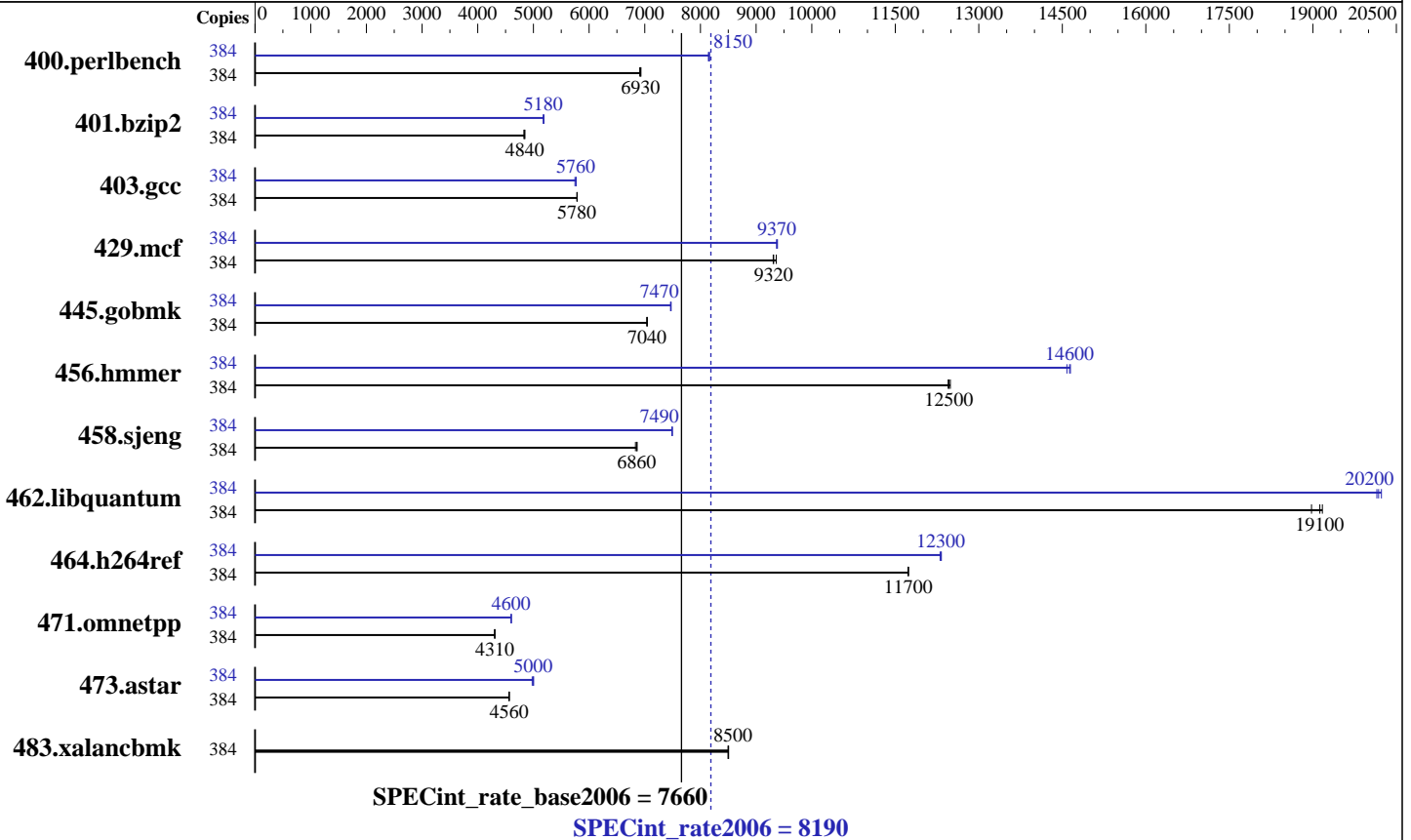
Hardware

CPU Name: Intel Xeon X7542
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2667
FPU: Integrated
CPU(s) enabled: 384 cores, 64 chips, 6 cores/chip
CPU(s) orderable: 2-256 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 18 MB I+D on chip per chip
Other Cache: None
Memory: 2 TB (512 x 4GB dual-rank DDR3-1066 CL7 RDIMMs)
Disk Subsystem: None
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7.1.1381.0.PTF-default
Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel: No
File System: tmpfs
System State: Run Level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	384	541	6930	**542**	**6930**	543	6910	384	**460**	**8150**	460	8160	461	8140
401.bzip2	384	767	4830	**765**	**4840**	765	4850	384	716	5180	714	5190	**715**	**5180**
403.gcc	384	**535**	**5780**	534	5790	535	5780	384	536	5770	538	5750	**536**	**5760**
429.mcf	384	376	9310	**376**	**9320**	374	9360	384	374	9370	373	9380	**374**	**9370**
445.gobmk	384	573	7040	**572**	**7040**	572	7050	384	**540**	**7470**	539	7470	540	7470
456.hmmer	384	287	12500	288	12400	**287**	**12500**	384	246	14600	245	14600	**245**	**14600**
458.sjeng	384	677	6860	680	6830	**678**	**6860**	384	620	7490	**620**	**7490**	620	7490
462.libquantum	384	415	19200	**416**	**19100**	419	19000	384	395	20200	**394**	**20200**	393	20200
464.h264ref	384	**724**	**11700**	724	11700	724	11700	384	689	12300	**690**	**12300**	691	12300
471.omnetpp	384	**557**	**4310**	557	4310	558	4300	384	521	4600	**522**	**4600**	522	4600
473.astar	384	591	4560	590	4570	**591**	**4560**	384	**539**	**5000**	539	5000	542	4980
483.xalancbmk	384	**312**	**8500**	311	8510	312	8500	384	**312**	**8500**	311	8510	312	8500

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
   The config file option 'submit' was used.
    numactl was used to bind copies to the cores
```

Operating System Notes

```
    Tmpfs filesystem set up with:
      mkdir -p /mnt/shm
      mount -t tmpfs -o size=2048g,rw,mpol=interleave tmpfs /mnt/shm/
      The mpol=interleave option sets the NUMA memory allocation
      policy for all files to allocate from each node in turn.
```

Platform Notes

```
   OS on 300 GB SAS disk
```

General Notes

```
   Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
```

Base Compiler Invocation

```
   C benchmarks:
        icc  -m32
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m32

Base Portability Flags

    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

Base Other Flags

C benchmarks:

    403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m32

    401.bzip2: icc -m64

    456.hmmer: icc -m64

    458.sjeng: icc -m64

    462.libquantum: icc -m64

C++ benchmarks (except as noted below):
    icpc -m32

    473.astar: icpc -m64

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Peak Portability Flags

```
  400.perlbench: -DSPEC_CPU_LINUX_IA32
      401.bzip2: -DSPEC_CPU_LP64
      456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
      473.astar: -DSPEC_CPU_LP64
  483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
  400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -ansi-alias

      401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

       403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

       429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

     445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                 -ipo -no-prec-div -ansi-alias

     456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
                 -ansi-alias -auto-ilp32

     458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -unroll4 -auto-ilp32

  462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
                 -opt-prefetch

    464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -unroll2 -ansi-alias
```

C++ benchmarks:

```
    471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
                 -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
```

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Peak Optimization Flags (Continued)

  473.astar: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

  483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

  403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml`

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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