SPEC® CINT2006 Result

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Dell Inc.

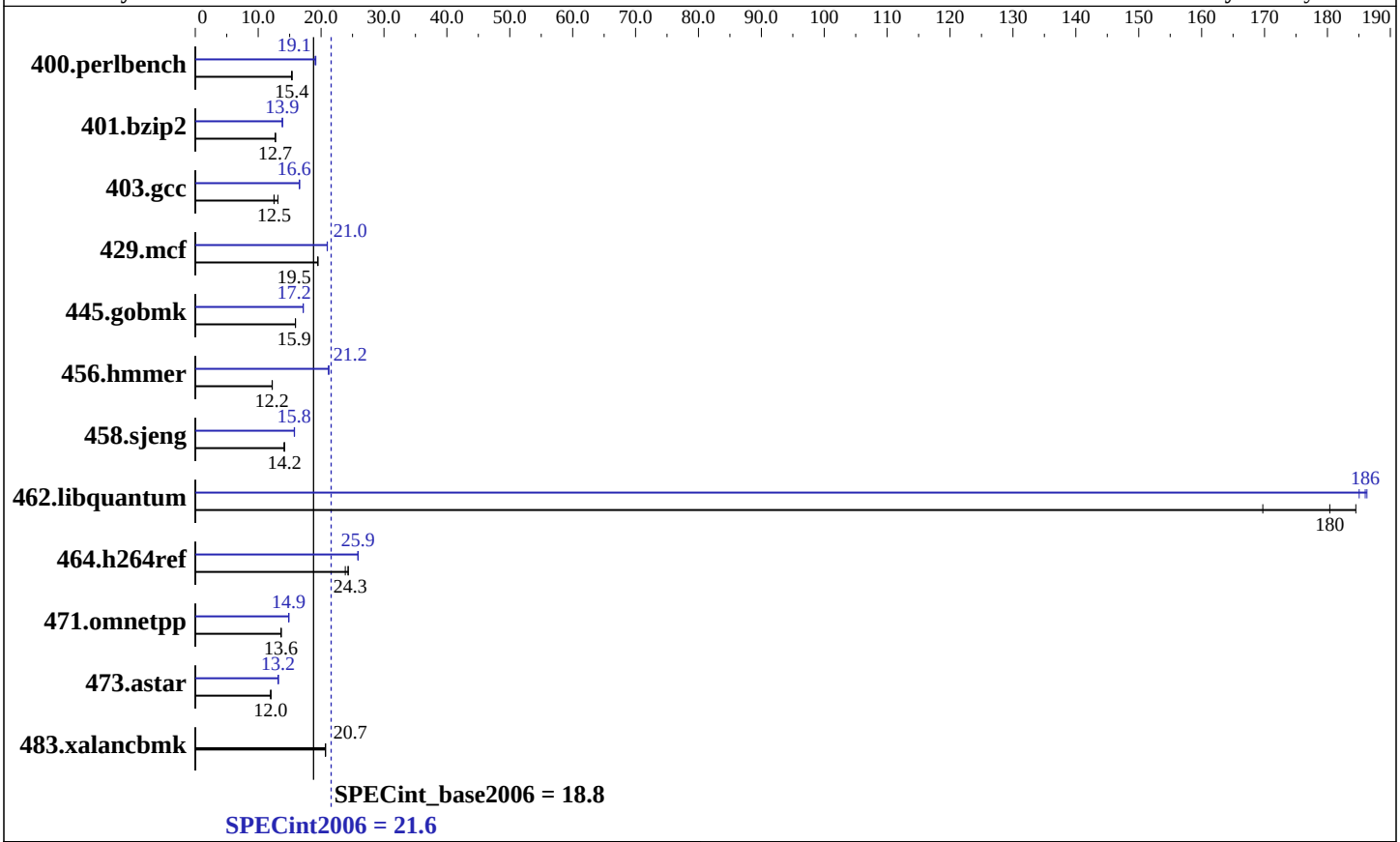
PowerEdge M600 (Intel Xeon E5410, 2.33 GHz)

SPECint®2006 = 21.6

SPECint_base2006 = 18.8

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: May-2008



Hardware

CPU Name:	Intel Xeon E5410
CPU Characteristics:	
CPU MHz:	2333
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 x 2 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem:	1 x 80 GB 5400 RPM SATA
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	638	15.3	**636**	**15.4**	635	15.4	**511**	**19.1**	513	19.1	510	19.2
401.bzip2	**758**	**12.7**	759	12.7	757	12.8	697	13.9	697	13.8	**697**	**13.9**
403.gcc	644	12.5	613	13.1	**642**	**12.5**	486	16.6	**486**	**16.6**	487	16.5
429.mcf	468	19.5	468	19.5	**468**	**19.5**	**434**	**21.0**	435	21.0	434	21.0
445.gobmk	658	15.9	659	15.9	**659**	**15.9**	611	17.2	611	17.2	**611**	**17.2**
456.hmmer	762	12.2	**764**	**12.2**	764	12.2	440	21.2	**440**	**21.2**	440	21.2
458.sjeng	857	14.1	853	14.2	**854**	**14.2**	767	15.8	769	15.7	**768**	**15.8**
462.libquantum	112	185	**115**	**180**	122	170	111	186	**111**	**186**	112	185
464.h264ref	**912**	**24.3**	928	23.8	910	24.3	**855**	**25.9**	854	25.9	856	25.8
471.omnetpp	**458**	**13.6**	458	13.7	458	13.6	**421**	**14.9**	421	14.9	420	14.9
473.astar	**586**	**12.0**	584	12.0	586	12.0	**532**	**13.2**	532	13.2	533	13.2
483.xalancbmk	**333**	**20.7**	333	20.7	334	20.7	**333**	**20.7**	333	20.7	334	20.7

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

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
-fast -vec-guard-write -parallel -par-runtime-control
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/cpu2006.1.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc
```

401.bzip2:
```
/opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include
```

456.hmmer:
```
/opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include
```

C++ benchmarks:
```
icpc
```

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

400.perlbench: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -ansi-alias -prefetch`

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -prefetch -auto-ilp32`

403.gcc: `-fast -inline-calloc -opt-malloc-options=3`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-fast -unroll2 -ansi-alias -opt-multi-version-aggressive -auto-ilp32`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4`

462.libquantum: `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.html`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html`

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml

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