SPEC® CINT2006 Result
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Hewlett-Packard Company

SPECint®2006 = 21.6

ProLiant BL460c
(2.33 GHz, Intel Xeon E5410)
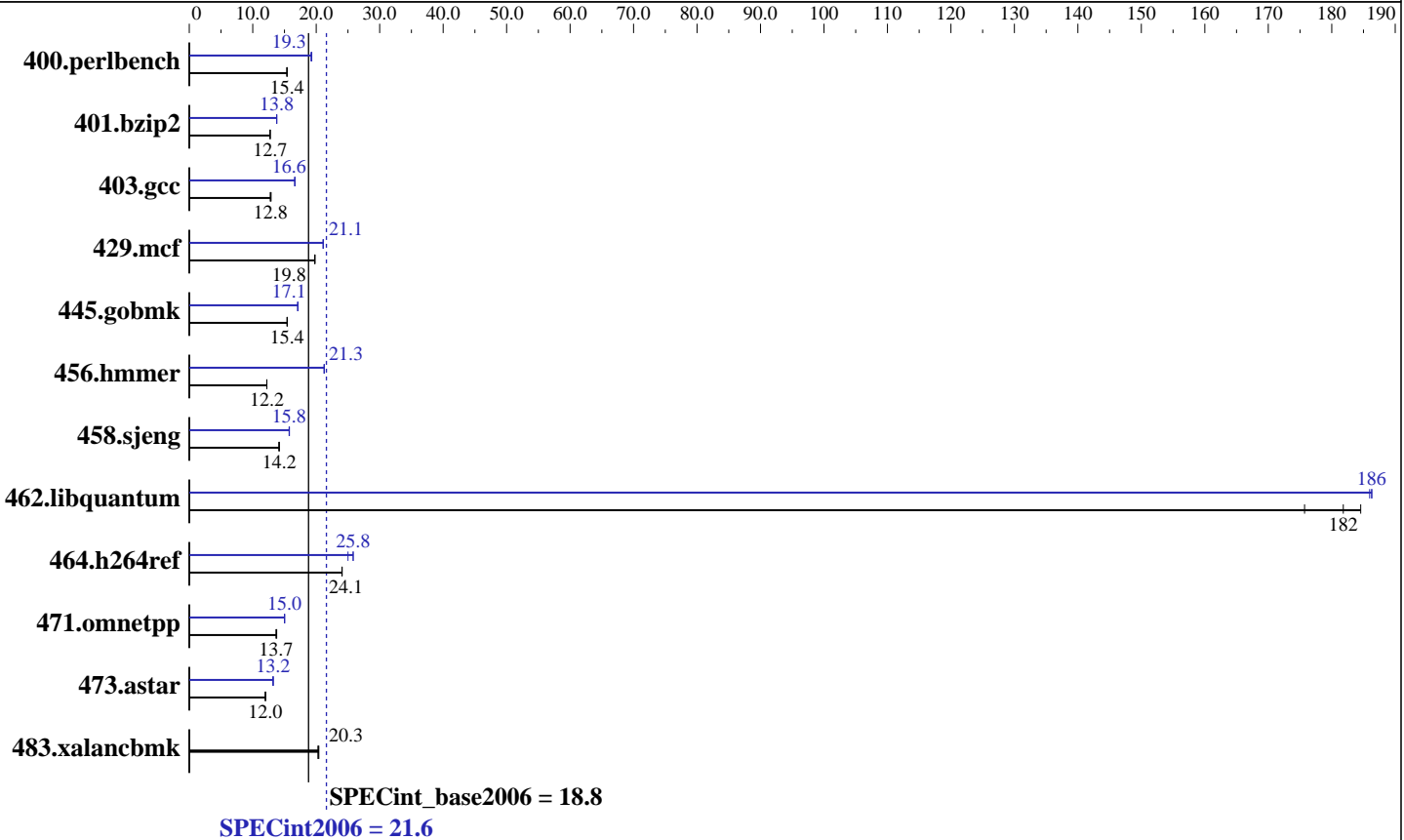
SPECint_base2006 = 18.8

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2008
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Benchmark	base	peak
400.perlbench	15.4	19.3
401.bzip2	12.7	13.8
403.gcc	12.8	16.6
429.mcf	19.8	21.1
445.gobmk	15.4	17.1
456.hmmer	12.2	21.3
458.sjeng	14.2	15.8
462.libquantum	182	186
464.h264ref	24.1	25.8
471.omnetpp	13.7	15.0
473.astar	12.0	13.2
483.xalancbmk		20.3

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Hardware

CPU Name:	Intel Xeon E5410
CPU Characteristics:	2.33 GHz, 2x6 MB L2 shared, 1333 MHz system bus
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 (8x2 GB PC2-5300F CL5)
Disk Subsystem:	1x72 GB 15 K SAS
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 8.1 binutils-2.17.50

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**634**	**15.4**	634	15.4	636	15.4	510	19.2	506	19.3	**506**	**19.3**
401.bzip2	758	12.7	758	12.7	**758**	**12.7**	700	13.8	**701**	**13.8**	701	13.8
403.gcc	630	12.8	625	12.9	**629**	**12.8**	483	16.7	485	16.6	**484**	**16.6**
429.mcf	**461**	**19.8**	460	19.8	461	19.8	432	21.1	432	21.1	**432**	**21.1**
445.gobmk	680	15.4	680	15.4	**680**	**15.4**	**613**	**17.1**	614	17.1	613	17.1
456.hmmer	**763**	**12.2**	763	12.2	764	12.2	439	21.3	439	21.3	**439**	**21.3**
458.sjeng	**854**	**14.2**	853	14.2	857	14.1	**768**	**15.8**	769	15.7	767	15.8
462.libquantum	118	176	112	185	**114**	**182**	111	186	**111**	**186**	111	186
464.h264ref	920	24.1	**920**	**24.1**	919	24.1	857	25.8	**858**	**25.8**	885	25.0
471.omnetpp	457	13.7	**456**	**13.7**	454	13.8	**416**	**15.0**	416	15.0	417	15.0
473.astar	**585**	**12.0**	587	12.0	584	12.0	530	13.2	533	13.2	**531**	**13.2**
483.xalancbmk	338	20.4	340	20.3	**340**	**20.3**	338	20.4	340	20.3	**340**	**20.3**

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 stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

Platform Notes

```
BIOS configuration:
   Power Regulator set to Static High Performance Mode
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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

Base Portability Flags

```
   400.perlbench: -DSPEC_CPU_LINUX_IA32
   462.libquantum: -DSPEC_CPU_LINUX
```

Continued on next page

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Base Portability Flags (Continued)

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/cpu2006/SmartHeap_8.1/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/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/include

     456.hmmer: /opt/intel/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/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

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Peak Optimization Flags

C benchmarks:

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/cpu2006/SmartHeap_8.1/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/cpu2006/SmartHeap_8.1/lib -lsmartheap`

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

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The flags file that was used to format this result can be browsed at

`http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090713.html`

You can also download the XML flags source by saving the following link:

`http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090713.xml`

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

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