



SPEC[®] CINT2006 Result

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Hewlett-Packard Company

SPECint[®]_rate2006 = 74.4

ProLiant DL320 G5p
(2.83 GHz, Intel Xeon X3360)

SPECint_rate_base2006 = 62.4

CPU2006 license: 3

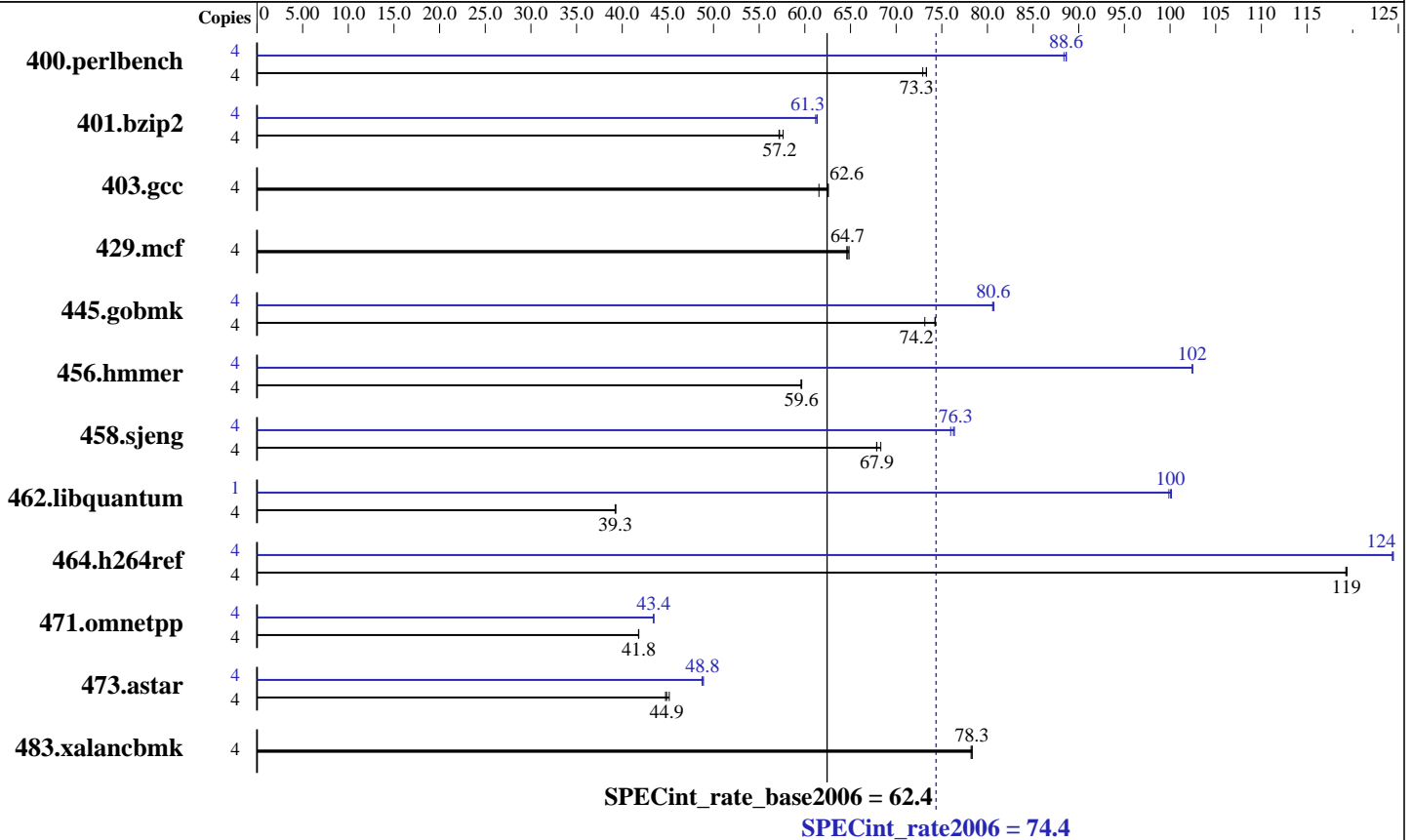
Test date: May-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: May-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X3360
 CPU Characteristics: 2.83 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 2833
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 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: 8 GB (4x2 GB PC2-6400E CL5)
 Disk Subsystem: 1 x 80 GB 7.2 K SATA
 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 for applications running on 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	<u>533</u>	<u>73.3</u>	533	73.3	536	72.9	4	442	88.4	<u>441</u>	<u>88.6</u>	441	88.7
401.bzip2	4	<u>675</u>	<u>57.2</u>	675	57.2	670	57.6	4	<u>630</u>	<u>61.3</u>	629	61.4	631	61.2
403.gcc	4	<u>515</u>	<u>62.6</u>	515	62.6	523	61.5	4	<u>515</u>	<u>62.6</u>	515	62.6	523	61.5
429.mcf	4	565	64.6	<u>564</u>	<u>64.7</u>	563	64.8	4	565	64.6	<u>564</u>	<u>64.7</u>	563	64.8
445.gobmk	4	565	74.3	<u>565</u>	<u>74.2</u>	574	73.1	4	521	80.6	520	80.7	<u>520</u>	<u>80.6</u>
456.hammer	4	<u>626</u>	<u>59.6</u>	626	59.6	626	59.7	4	364	102	364	102	<u>364</u>	<u>102</u>
458.sjeng	4	<u>713</u>	<u>67.9</u>	708	68.3	713	67.9	4	637	76.0	<u>635</u>	<u>76.3</u>	634	76.4
462.libquantum	4	2109	39.3	<u>2111</u>	<u>39.3</u>	2113	39.2	1	207	100	<u>207</u>	<u>100</u>	207	99.9
464.h264ref	4	742	119	742	119	<u>742</u>	<u>119</u>	4	711	124	<u>712</u>	<u>124</u>	712	124
471.omnetpp	4	598	41.8	598	41.8	<u>598</u>	<u>41.8</u>	4	<u>575</u>	<u>43.4</u>	576	43.4	575	43.5
473.astar	4	628	44.7	<u>626</u>	<u>44.9</u>	622	45.2	4	574	48.9	<u>575</u>	<u>48.8</u>	576	48.7
483.xalancbmk	4	353	78.2	352	78.3	<u>352</u>	<u>78.3</u>	4	353	78.2	352	78.3	<u>352</u>	<u>78.3</u>

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
Adjacent Sector Prefetch Disabled

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

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Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -inline-calloc -opt-malloc-options=3

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

403.gcc: basepeak = yes

429.mcf: basepeak = yes

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

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

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.20090714.html>



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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.20090714.xml>

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 17:02:35 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 May 2008.