SPEC® CINT2006 Result

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Hewlett-Packard Company

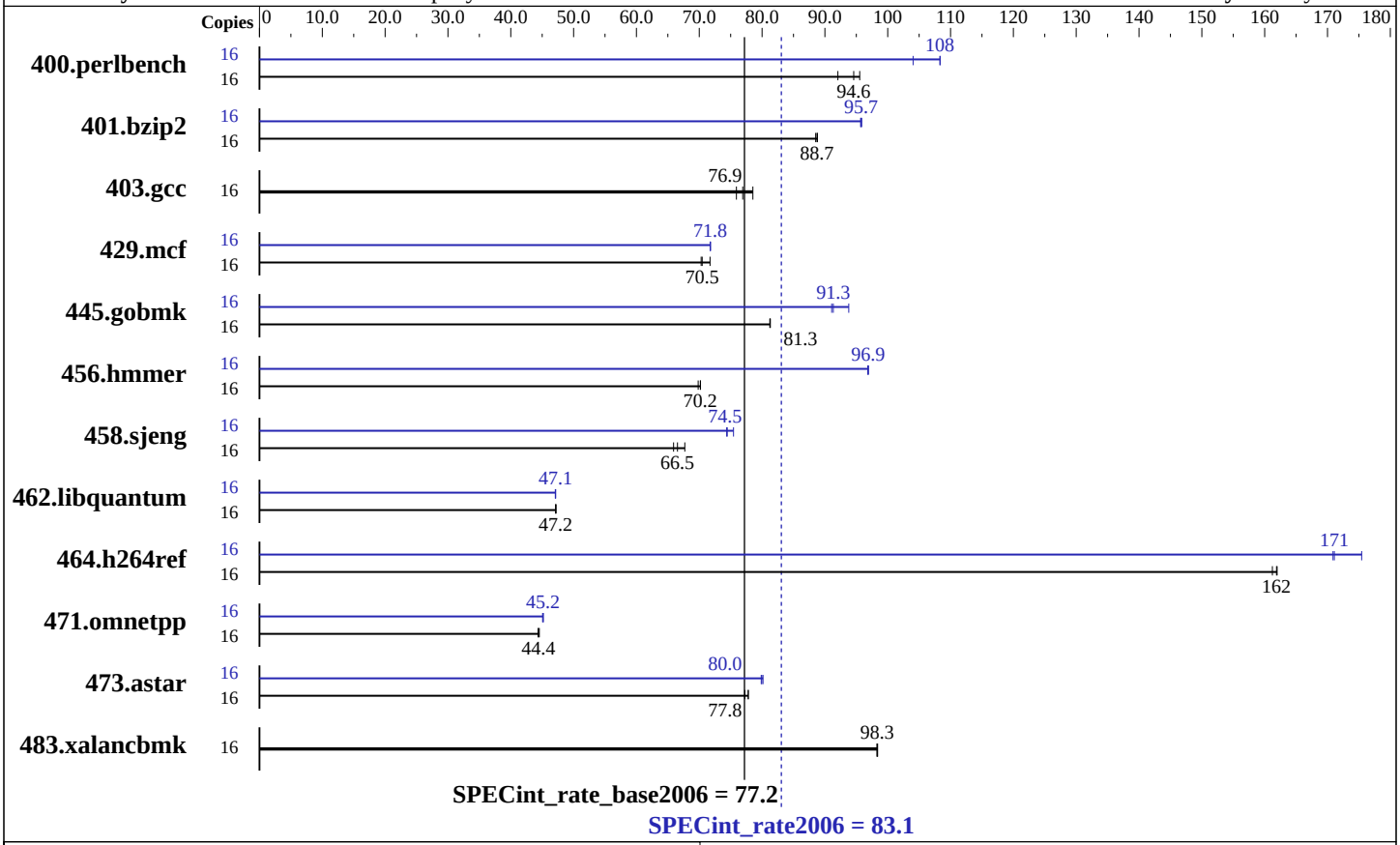
ProLiant DL580 G4
(3.4 GHz, Intel Xeon processor 7140M)

SPECint®_rate2006 = 83.1

SPECint_rate_base2006 = 77.2

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

Test date: Jul-2007
Hardware Availability: Aug-2006
Software Availability: May-2007



Hardware

CPU Name:	Intel Xeon 7140M
CPU Characteristics:	3.4 GHz, 800 MHz system bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-3200R)
Disk Subsystem:	1x72 GB 15 K SAS
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for IA32/EM64T applications, Version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel:	No
File System:	ext2
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap 8.1 libraries

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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	16	1636	95.5	**1653**	**94.6**	1698	92.1	16	**1443**	**108**	1503	104	1443	108
401.bzip2	16	**1740**	**88.7**	1744	88.5	1738	88.8	16	**1613**	**95.7**	1611	95.9	1614	95.7
403.gcc	16	**1674**	**76.9**	1697	75.9	1640	78.5	16	**1674**	**76.9**	1697	75.9	1640	78.5
429.mcf	16	2035	71.7	2076	70.3	**2071**	**70.5**	16	2034	71.7	2033	71.8	**2033**	**71.8**
445.gobmk	16	2064	81.3	2066	81.2	**2065**	**81.3**	16	**1838**	**91.3**	1789	93.8	1843	91.1
456.hmmer	16	2138	69.8	2127	70.2	**2127**	**70.2**	16	1542	96.8	**1541**	**96.9**	1540	96.9
458.sjeng	16	2860	67.7	2937	65.9	**2910**	**66.5**	16	2603	74.4	**2600**	**74.5**	2566	75.5
462.libquantum	16	**7030**	**47.2**	7024	47.2	7033	47.1	16	**7035**	**47.1**	7033	47.1	7041	47.1
464.h264ref	16	2196	161	2186	162	**2187**	**162**	16	**2070**	**171**	2072	171	2018	175
471.omnetpp	16	2255	44.3	2245	44.5	**2251**	**44.4**	16	2214	45.2	2219	45.1	**2215**	**45.2**
473.astar	16	1454	77.3	**1444**	**77.8**	1444	77.8	16	1401	80.1	**1405**	**80.0**	1406	79.9
483.xalancbmk	16	1123	98.3	**1123**	**98.3**	1122	98.4	16	1123	98.3	**1123**	**98.3**	1122	98.4

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
'/usr/bin/taskset' used to bind processes to CPUs
```

Platform Notes

```
BIOS configuration:
 Power Regulator Disabled
 Adjacent Sector Prefetch Enabled
 Hardware Prefetcher Enabled
 Hyper-Threading Technology Enabled
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

Continued on next page

Base Portability Flags (Continued)

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

Base Optimization Flags

C benchmarks:
-xP -ipo -O3 -static -no-prec-div

C++ benchmarks:
-xP -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/cpu2006.1.0/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/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/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:

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

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -no-prec-div`

403.gcc: `basepeak = yes`

429.mcf: `-xP -ipo -O3 -static -no-prec-div -prefetch`

445.gobmk: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -O2 -ipo -no-prec_div -ansi-alias`

456.hmmer: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -ansi-alias`

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

462.libquantum: `Same as 458.sjeng`

464.h264ref: `Same as 456.hmmer`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -O3 -ipo -no-prec_div -ansi-alias -Wl,-z,muldefs -L/cpu2006.1.0/SmartHeap_8.1/lib -lsmartheap`

473.astar: `Same as 471.omnetpp`

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-ic10-flags.20090714.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.03.xml`

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