



SPEC® CINT2006 Result

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Hewlett-Packard Company

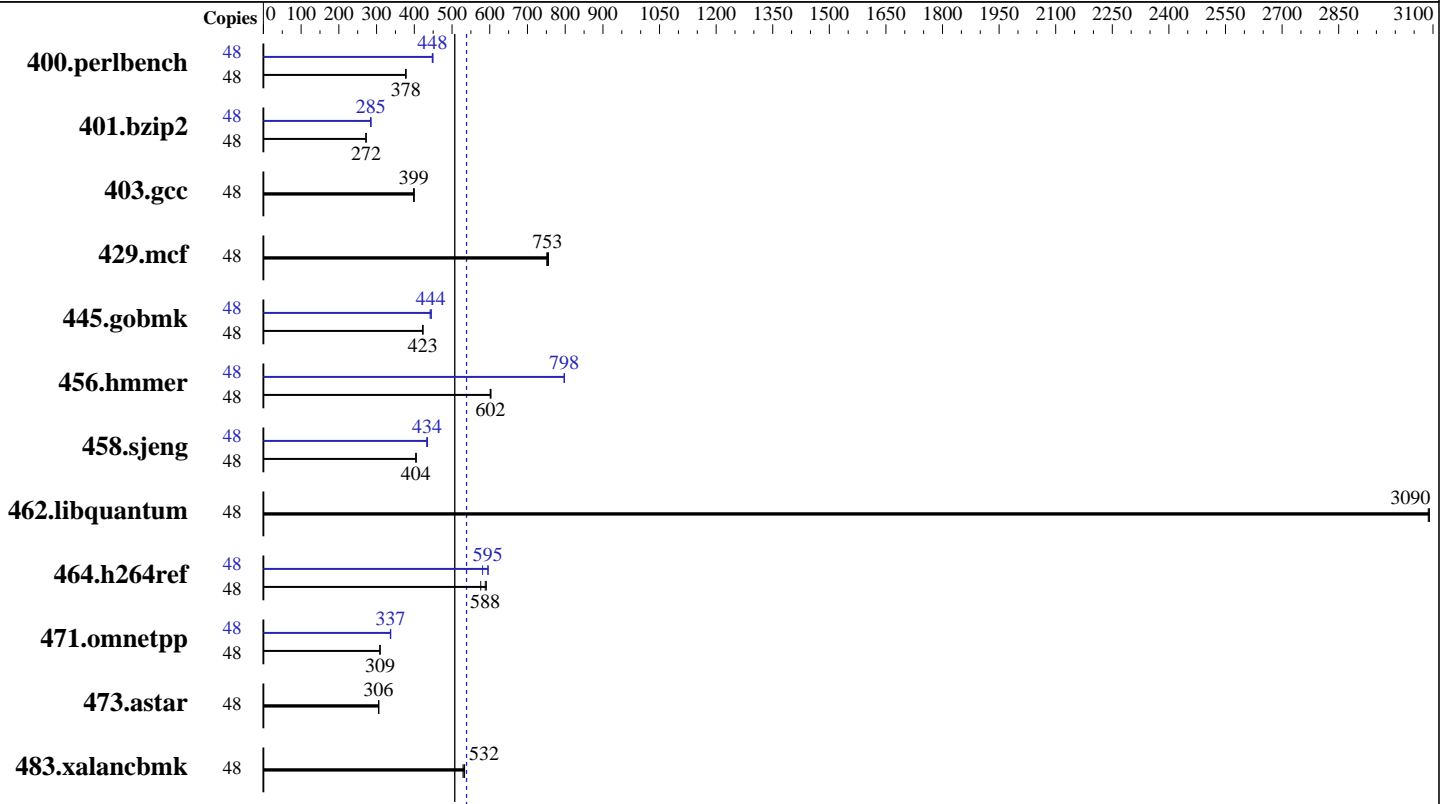
SPECint®_rate2006 = 538

ProLiant BL680c G7
(1.87 GHz, Intel Xeon E7530)

SPECint_rate_base2006 = 507

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

Test date: Oct-2011
Hardware Availability: Jun-2010
Software Availability: Sep-2011



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Hardware

CPU Name: Intel Xeon E7530
CPU Characteristics: Intel Turbo Boost Technology up to 2.13 GHz
CPU MHz: 1867
FPU: Integrated
CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable: 2,4 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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (64 x 16 GB 4Rx4 PC3-8500R-7, ECC)
Disk Subsystem: 1 x 146 GB 10 K SAS
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Compiler Build 20110803
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01



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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	48	<u>1242</u>	<u>378</u>	1240	378	1245	377	48	<u>1046</u>	<u>448</u>	1047	448	1043	450
401.bzip2	48	<u>1702</u>	<u>272</u>	1702	272	1703	272	48	1630	284	1625	285	<u>1626</u>	<u>285</u>
403.gcc	48	966	400	970	398	<u>969</u>	<u>399</u>	48	966	400	970	398	<u>969</u>	<u>399</u>
429.mcf	48	<u>581</u>	<u>753</u>	579	756	583	751	48	<u>581</u>	<u>753</u>	579	756	583	751
445.gobmk	48	1190	423	<u>1191</u>	<u>423</u>	1194	422	48	1131	445	1140	442	<u>1134</u>	<u>444</u>
456.hammer	48	742	603	<u>743</u>	<u>602</u>	745	601	48	561	798	562	797	<u>561</u>	<u>798</u>
458.sjeng	48	1438	404	<u>1436</u>	<u>404</u>	1434	405	48	<u>1337</u>	<u>434</u>	1335	435	1342	433
462.libquantum	48	322	3090	<u>322</u>	<u>3090</u>	322	3090	48	322	3090	<u>322</u>	<u>3090</u>	322	3090
464.h264ref	48	1798	591	1844	576	<u>1806</u>	<u>588</u>	48	1828	581	<u>1785</u>	<u>595</u>	1783	596
471.omnetpp	48	972	309	970	309	<u>971</u>	<u>309</u>	48	<u>891</u>	<u>337</u>	888	338	891	337
473.astar	48	1101	306	<u>1103</u>	<u>306</u>	1104	305	48	1101	306	<u>1103</u>	<u>306</u>	1104	305
483.xalancbmk	48	<u>623</u>	<u>532</u>	626	529	621	533	48	<u>623</u>	<u>532</u>	626	529	621	533

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

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/smartheap:/cpu2006/ic12.1-libs/ia32:/cpu2006/ic12.1-libs/intel64"

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>



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Base Compiler Invocation

C benchmarks:

`icc -m32`

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 -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m32`

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:

`icpc -m32`



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Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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) -prof-use(pass 2)
               -auto-ilp32

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

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias -opt-mem-layout-trans=3

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

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

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
              -O3(pass 2) -no-prec-div(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/smartheap -lsmartheap

473.astar: basepeak = yes

```

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Peak Optimization Flags (Continued)

483.xalanbmk: 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/HP-Intel-Linux-Settings-flags.20111122.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-linux64.html>

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

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20111122.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-linux64.xml>

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