



SPEC® CINT2006 Result

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Hewlett-Packard Company

HP Integrity rx2660 (1.66GHz/18MB Dual-Core Intel Itanium)

SPECint®_rate2006 = 62.8

SPECint_rate_base2006 = 58.1

CPU2006 license: 03

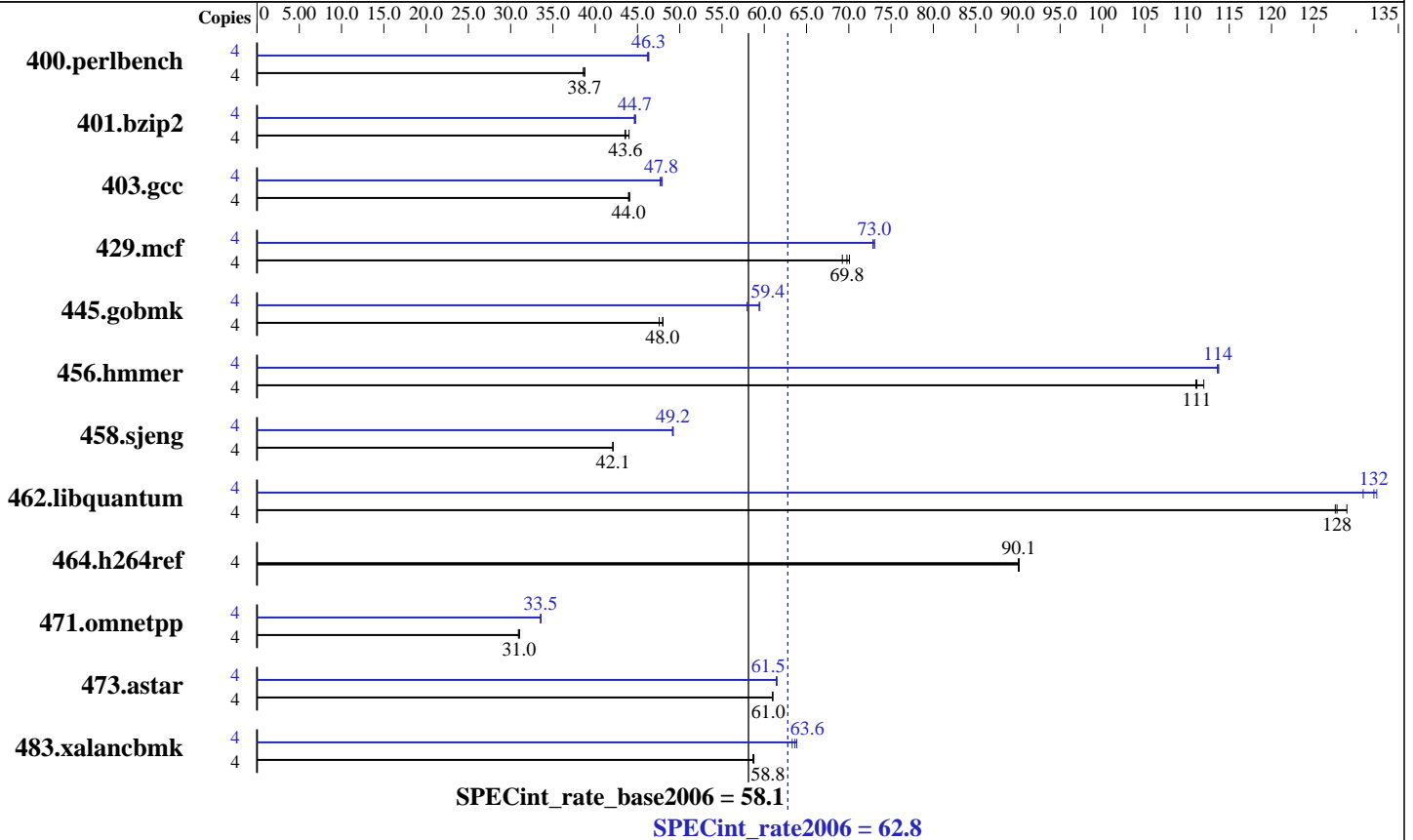
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Sep-2007

Hardware Availability: Nov-2007

Software Availability: Sep-2007



Hardware

CPU Name: Dual-Core Intel Itanium 9140M
 CPU Characteristics: 1.66GHz/18MB, 667MHz FSB
 CPU MHz: 1666
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 1-2 chips
 Primary Cache: 16 KB I + 16 KB D on chip per core
 Secondary Cache: 1 MB I + 256 KB D on chip per core
 L3 Cache: 9 MB I+D on chip per core
 Other Cache: None
 Memory: 16 GB (8x2GB DIMMs)
 Disk Subsystem: 73GB 10K RPM SAS
 Other Hardware: None

Software

Operating System: HPUX11i-MCOE B.11.31 (LR)
 Compiler: HP C/aC++ Developer's Bundle C.11.31.03
 HP Fortran90 Compiler B.11.31.03
 Auto Parallel: No
 File System: vxfs
 System State: Multi-user
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: MicroQuill Smartheap 8.1



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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	1008	38.8	1009	38.7	1013	38.6	4	844	46.3	843	46.3	846	46.2
401.bzip2	4	877	44.0	887	43.5	885	43.6	4	865	44.6	864	44.7	862	44.8
403.gcc	4	733	43.9	732	44.0	730	44.1	4	675	47.7	672	47.9	673	47.8
429.mcf	4	527	69.2	523	69.8	521	70.1	4	501	72.8	500	73.0	499	73.0
445.gobmk	4	874	48.0	882	47.6	875	48.0	4	724	58.0	707	59.4	705	59.5
456.hammer	4	336	111	333	112	336	111	4	328	114	329	114	328	114
458.sjeng	4	1149	42.1	1149	42.1	1150	42.1	4	985	49.1	983	49.2	984	49.2
462.libquantum	4	650	128	649	128	643	129	4	626	132	627	132	633	131
464.h264ref	4	982	90.1	983	90.1	982	90.1	4	982	90.1	983	90.1	982	90.1
471.omnetpp	4	806	31.0	805	31.1	809	30.9	4	745	33.5	744	33.6	745	33.5
473.astar	4	460	61.0	460	61.0	461	61.0	4	457	61.4	457	61.5	457	61.5
483.xalancbmk	4	470	58.7	470	58.8	470	58.8	4	436	63.3	432	63.8	434	63.6

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

Operating System Notes

The system had the September 2007 HP-UX 11i v3 Mission Critical Operating Environment (MCOE) and compilers installed, along with the following patches:

```

PHSS_36349 linker + fdp cumulative patch
PHSS_36351 Math Library Cumulative Patch
PHSS_36352 Integrity Unwind Library
PHSS_36350 aC++ Runtime (A.06.15)
PHSS_36354 assembler patch

```

The following kernel tunables were set, in addition to the defaults set by the Mission Critical OE:

```

maxdsiz=3221225472
maxssiz=401604608
maxrsessiz=41943040

```

Base Compiler Invocation

C benchmarks:

```
/opt/ansic/bin/cc -Ae
```

C++ benchmarks:

```
/opt/aCC/bin/aCC -Aa
```



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Base Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64
403.gcc: -DSPEC_CPU_HPUX
462.libquantum: -DSPEC_CPU_HPUX
483.xalancbmk: -DSPEC_CPU_HPUX_IA64

Base Optimization Flags

C benchmarks:

+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
-Wl,+pi,64M -Wl,-N

C++ benchmarks:

+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
-Wl,+pi,64M -Wl,-N

/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmartheap.a

Peak Compiler Invocation

C benchmarks:

/opt/ansic/bin/cc -Ae

C++ benchmarks:

/opt/aCC/bin/aCC -Aa

Peak Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64
403.gcc: -DSPEC_CPU_HPUX
462.libquantum: -DSPEC_CPU_HPUX
483.xalancbmk: -DSPEC_CPU_HPUX_IA64

Peak Optimization Flags

C benchmarks:

400.perlbench: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M -Wl,-N

401.bzip2: Same as 400.perlbench

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Peak Optimization Flags (Continued)

403.gcc: Same as 400.perlbench

429.mcf: Same as 400.perlbench

445.gobmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Odataprefetch=direct

456.hmmer: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M

458.sjeng: Same as 445.gobmk

462.libquantum: Same as 456.hmmer

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmar

473.astar: +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmar

483.xalancbmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmar

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.xml



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

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