SPEC® CINT2006 Result

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Hewlett-Packard Company

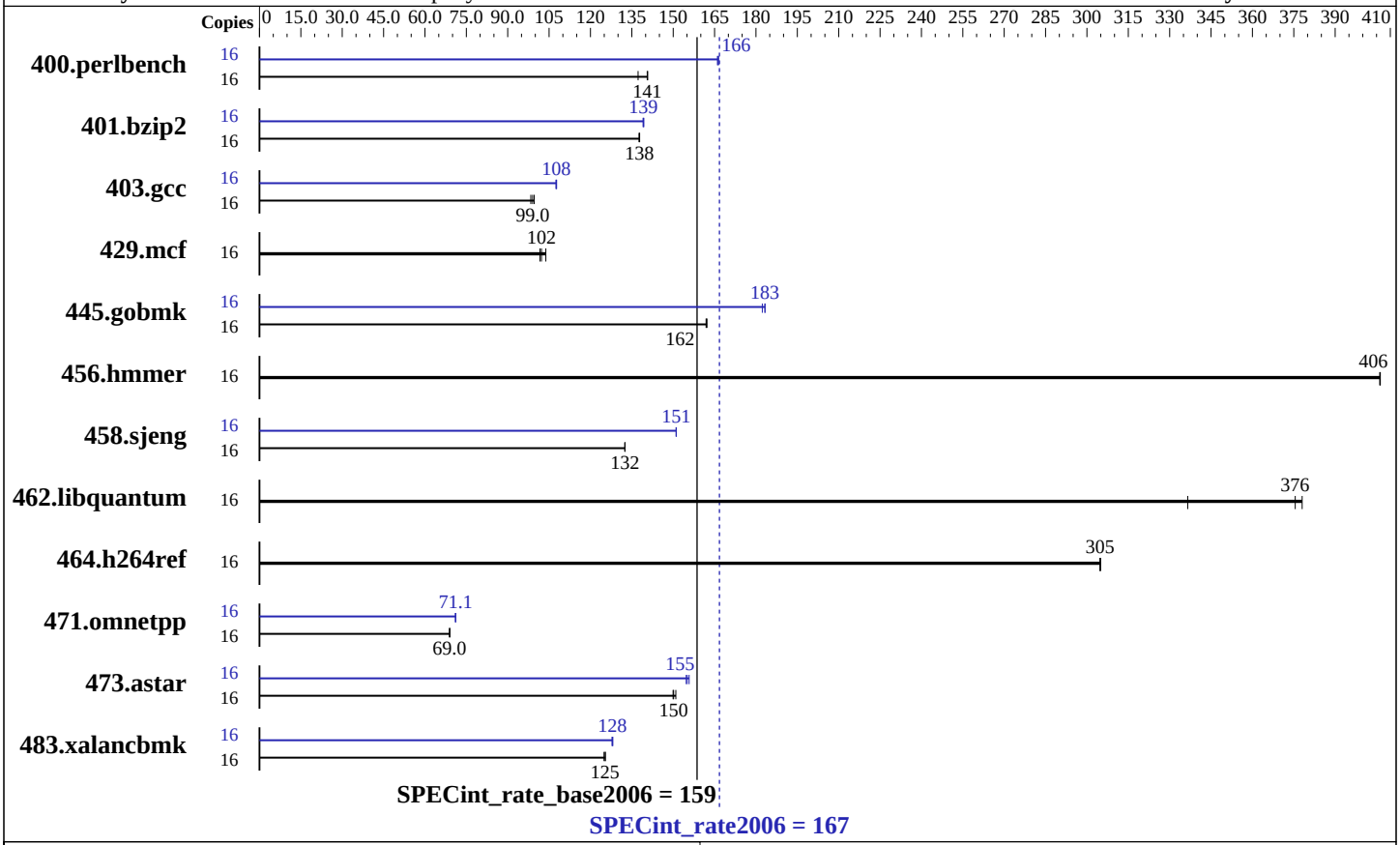
HP Integrity rx7640
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECint®_rate2006 = 167

SPECint_rate_base2006 = 159

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Dec-2006
Hardware Availability: Sep-2006
Software Availability: Nov-2006



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9040
CPU Characteristics:	1.6GHz/18MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	1-8 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:	64 GB (32x2GB DIMMs)
Disk Subsystem:	73GB 15K RPM SCSI
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux AS release 4 (Update 4)
Compiler:	Intel C++ Compiler 9.1 for Linux (Build 20061105)
Auto Parallel:	No
File System:	ext3
System State:	Multi-user
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	MicroQuill Smartheap 8.0

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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	1139	137	**1112**	**141**	1111	141	16	939	166	941	166	**941**	**166**
401.bzip2	16	**1121**	**138**	1122	138	1120	138	16	**1109**	**139**	1108	139	1110	139
403.gcc	16	1309	98.4	**1301**	**99.0**	1293	99.6	16	1198	107	1196	108	**1197**	**108**
429.mcf	16	**1427**	**102**	1405	104	1435	102	16	**1427**	**102**	1405	104	1435	102
445.gobmk	16	**1035**	**162**	1037	162	1035	162	16	**916**	**183**	921	182	916	183
456.hmmer	16	368	406	367	406	**367**	**406**	16	368	406	367	406	**367**	**406**
458.sjeng	16	**1461**	**132**	1461	132	1461	133	16	1281	151	1281	151	**1281**	**151**
462.libquantum	16	985	337	877	378	**883**	**376**	16	985	337	877	378	**883**	**376**
464.h264ref	16	**1162**	**305**	1161	305	1162	305	16	**1162**	**305**	1161	305	1162	305
471.omnetpp	16	1451	68.9	**1450**	**69.0**	1450	69.0	16	**1407**	**71.1**	1406	71.1	1407	71.1
473.astar	16	749	150	744	151	**748**	**150**	16	**724**	**155**	726	155	721	156
483.xalancbmk	16	**881**	**125**	881	125	884	125	16	864	128	**862**	**128**	862	128

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

Operating System Notes

```
stacksize set to unlimited prior to run
```

Platform Notes

```
System was configured as a single partition with
2 cells and 4 processors (8 cores) per cell.
Memory was configured as 100% cell local.

The following config file entry was used to bind
processes to cores using the Linux "numactl" utility:
submit = let "MYNUM=$SPECCOPYNUM" ; let "NODE=\$MYNUM/8" ; numactl --cpubind \$NODE --membind \$NODE $command
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_IA64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -IPF_fp_relaxed -ansi-alias

C++ benchmarks:
-fast -IPF_fp_relaxed -ansi-alias -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed
-ansi-alias

Continued on next page

Peak Optimization Flags (Continued)

401.bzip2: Same as 400.perlbench

403.gcc: Same as 400.perlbench

429.mcf: basepeak = yes

445.gobmk: Same as 400.perlbench

456.hmmer: basepeak = yes

458.sjeng: Same as 400.perlbench

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed
-ansi-alias -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a

473.astar: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed
-ansi-alias -inline-factor=150 -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a

483.xalancbmk: Same as 471.omnetpp

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.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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