SPEC® CINT2006 Result
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Hewlett-Packard Company

HP Integrity rx8640
(1.6GHz/24MB Dual-Core Intel Itanium 2)

SPECint®_rate2006 =   177
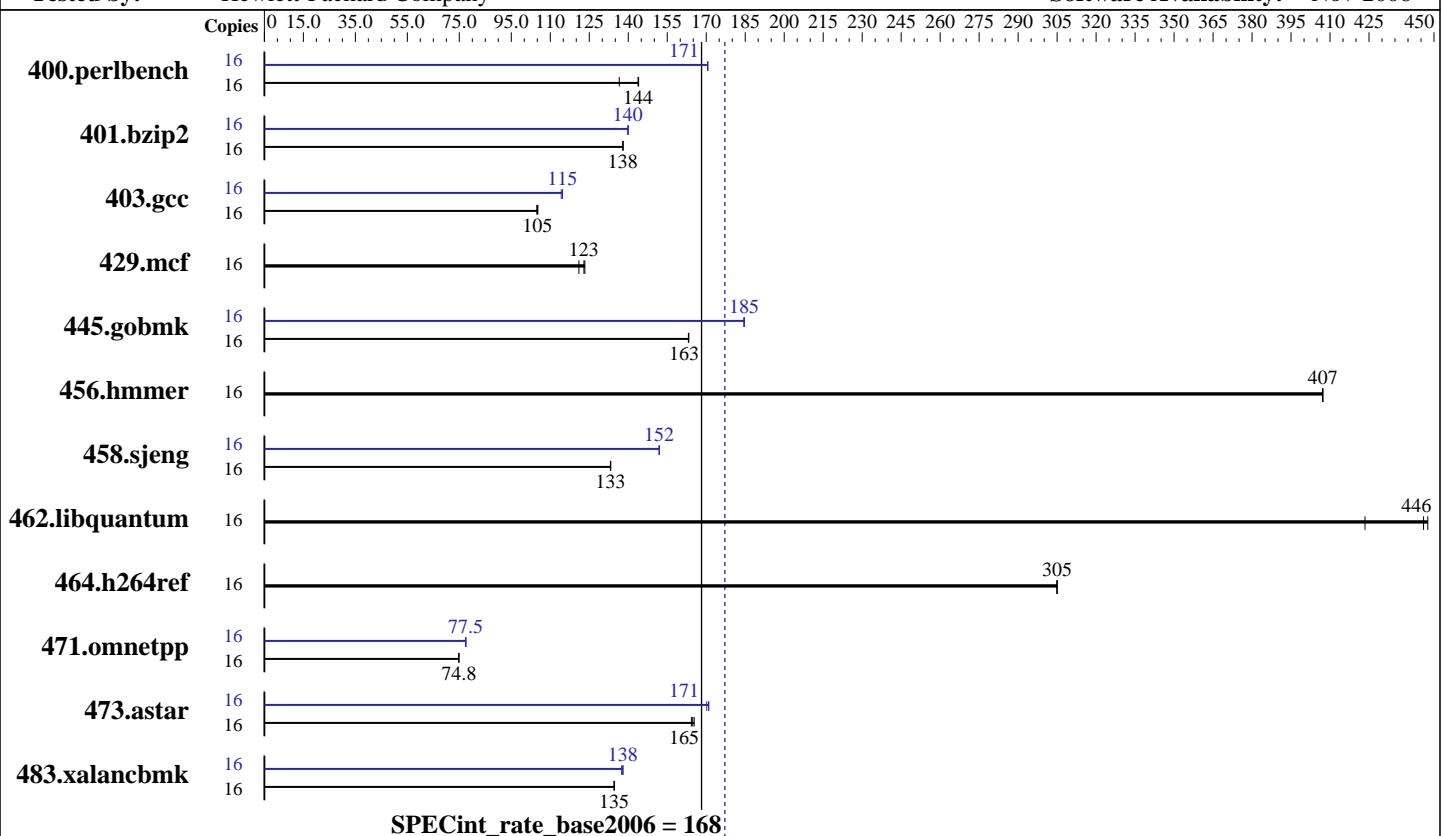
SPECint_rate_base2006 = 168

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

Copies 0 15.0 35.0 55.0 75.0 95.0 110 125 140 155 170 185 200 215 230 245 260 275 290 305 320 335 350 365 380 395 410 425 450

- 400.perlbench: 16 — 171; 16 — 144
- 401.bzip2: 16 — 140; 16 — 138
- 403.gcc: 16 — 115; 16 — 105
- 429.mcf: 16 — 123
- 445.gobmk: 16 — 185; 16 — 163
- 456.hmmer: 16 — 407
- 458.sjeng: 16 — 152; 16 — 133
- 462.libquantum: 16 — 446
- 464.h264ref: 16 — 305
- 471.omnetpp: 16 — 77.5; 16 — 74.8
- 473.astar: 16 — 171; 16 — 165
- 483.xalancbmk: 16 — 138; 16 — 135

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Hardware

CPU Name:	Dual-Core Intel Itanium 2 9050
CPU Characteristics:	1.6GHz/24MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	1-16 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:	12 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	1145	137	1086	144	**1087**	**144**	16	**917**	**171**	917	171	916	171
401.bzip2	16	1119	138	1119	138	**1119**	**138**	16	1104	140	**1104**	**140**	1103	140
403.gcc	16	1229	105	1224	105	**1225**	**105**	16	1128	114	**1123**	**115**	1123	115
429.mcf	16	1206	121	1183	123	**1187**	**123**	16	1206	121	1183	123	**1187**	**123**
445.gobmk	16	1028	163	1029	163	**1028**	**163**	16	909	185	910	184	**909**	**185**
456.hmmer	16	367	407	**367**	**407**	367	407	16	367	407	**367**	**407**	367	407
458.sjeng	16	**1453**	**133**	1454	133	1453	133	16	**1274**	**152**	1275	152	1274	152
462.libquantum	16	741	448	783	423	**743**	**446**	16	741	448	783	423	**743**	**446**
464.h264ref	16	1161	305	1161	305	**1161**	**305**	16	1161	305	1161	305	**1161**	**305**
471.omnetpp	16	1336	74.8	1337	74.8	**1337**	**74.8**	16	1290	77.5	**1290**	**77.5**	1291	77.5
473.astar	16	**682**	**165**	679	165	684	164	16	657	171	**657**	**171**	660	170
483.xalancbmk	16	**820**	**135**	820	135	820	135	16	800	138	**801**	**138**	803	137

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

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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
```

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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

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

Tested with SPEC CPU2006 v1.0.
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