SPEC® CINT2006 Result

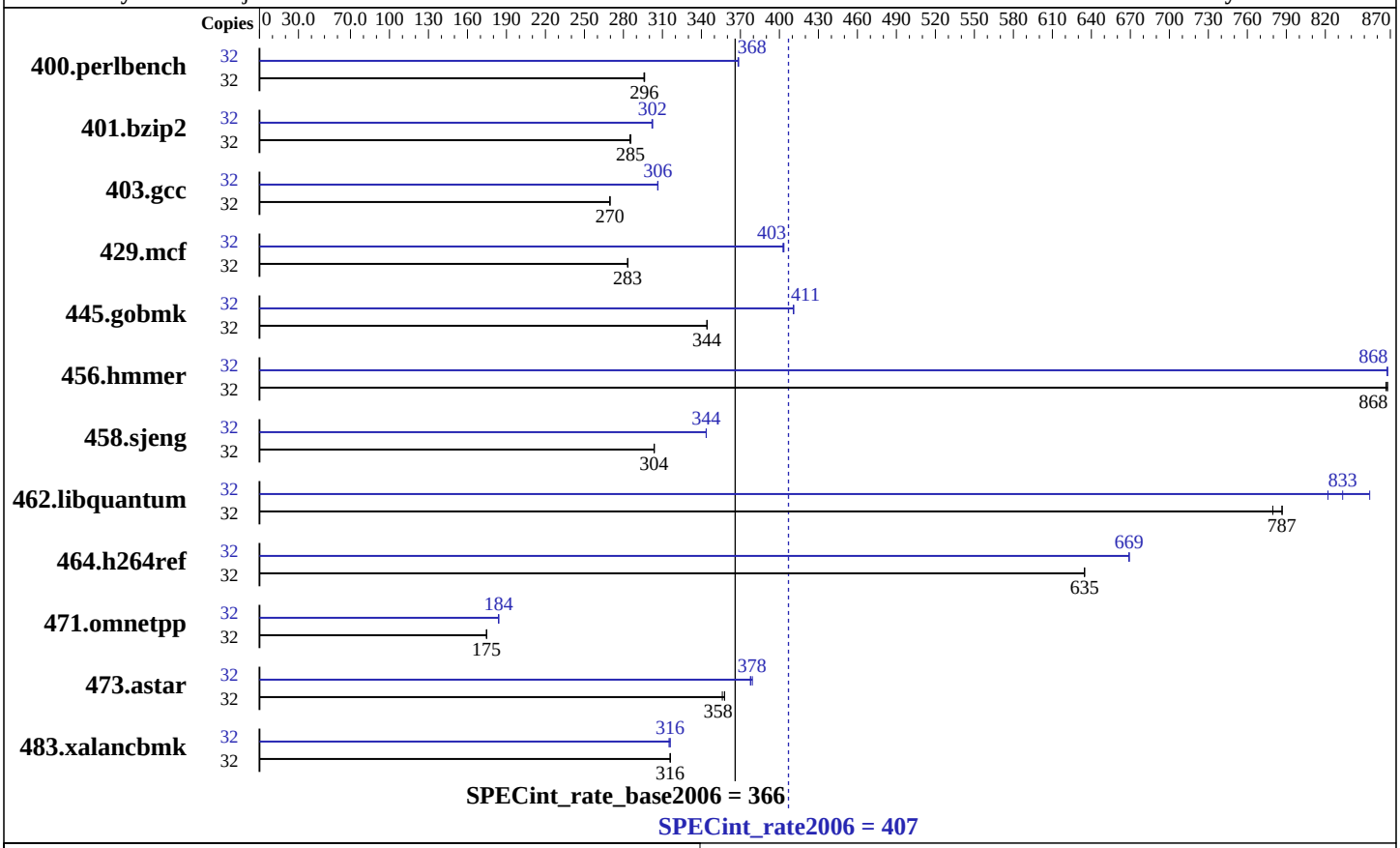
Fujitsu Limited
PRIMEQUEST 540A

SPECint®_rate2006 = 407

SPECint_rate_base2006 = 366

CPU2006 license: 19
Test sponsor: Fujitsu Limited
Tested by: Fujitsu Limited

Test date: Mar-2008
Hardware Availability: May-2008
Software Availability: Feb-2008



Hardware

CPU Name:	Dual-Core Intel Itanium 9150M
CPU Characteristics:	1.66GHz/24MB, 667MHz FSB
CPU MHz:	1667
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 chips, 2 cores/chip
CPU(s) orderable:	2-16 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:	256 GB (128 x 2GB DDR2-667 DIMMs)
Disk Subsystem:	2 x 147GB (SCSI Ultra 320, 10000rpm) No RAID configuration
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux 5.1, Kernel 2.6.18-53.el5 on an ia64
Compiler:	Intel C++ Compiler for Linux 10.1 (Build 20080112)
Auto Parallel:	No
File System:	ext2
System State:	Runlevel 1 (single user mode)
Base Pointers:	64-bit
Peak Pointers:	32/64-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	32	1055	296	1057	296	**1056**	**296**	32	849	368	848	369	**849**	**368**
401.bzip2	32	**1082**	**285**	1081	286	1083	285	32	**1021**	**302**	1023	302	1021	302
403.gcc	32	956	270	955	270	**955**	**270**	32	840	307	841	306	**841**	**306**
429.mcf	32	**1030**	**283**	1030	283	1029	283	32	**724**	**403**	723	403	725	403
445.gobmk	32	**975**	**344**	975	344	975	344	32	817	411	817	411	**817**	**411**
456.hmmer	32	344	868	**344**	**868**	345	867	32	**344**	**868**	344	868	344	868
458.sjeng	32	1275	304	1275	304	**1275**	**304**	32	1126	344	1127	344	**1127**	**344**
462.libquantum	32	**843**	**787**	850	780	843	787	32	807	822	776	854	**796**	**833**
464.h264ref	32	1116	635	**1116**	**635**	1116	635	32	1058	669	1059	669	**1058**	**669**
471.omnetpp	32	1145	175	**1145**	**175**	1145	175	32	**1087**	**184**	1087	184	1087	184
473.astar	32	**628**	**358**	631	356	628	358	32	595	378	592	379	**594**	**378**
483.xalancbmk	32	699	316	698	316	**699**	**316**	32	701	315	**699**	**316**	699	316

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

General Notes

```
Processes are bound to CPUs using taskset.

limit stacksize unlimited

Memory system is in "Non Mirror Mode".

The following 2 environment variables were set
    MALLOC_MMAP_MAX_=0
    MALLOC_TRIM_THRESHOLD_=-1
This will cause use of sbrk() calls instead of
mmap() calls to get memory from the system.
```

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 -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -opt-prefetch-issue-excl-hint
-unroll-aggressive

C++ benchmarks:
-fast -IPF-fp-relaxed -ansi-alias -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -opt-prefetch-issue-excl-hint
-unroll-aggressive -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 -ansi_alias
-IPF_fp_relaxed -opt-mod-versioning -unroll-aggressive
-inline-factor=150

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-ansi-alias -fno-alias -auto-ilp32
-opt-prefetch-next-iteration

403.gcc: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi_alias
-auto-ilp32 -IPF_fp_relaxed -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -unroll-aggressive

429.mcf: -fast -IPF-fp-relaxed -auto-ilp32 -ansi-alias
-opt-prefetch-next-iteration

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed
-auto-ilp32 -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -ansi-alias

456.hmmer: -fast -IPF_fp_relaxed -auto-ilp32
-no-opt-prefetch-initial-values

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed
-unroll-aggressive -no-prefetch
-opt-prefetch-next-iteration

462.libquantum: -fast -IPF-fp-relaxed -auto-ilp32 -ansi-alias
-opt-mod-versioning -no-opt-prefetch-initial-values
-opt-prefetch-issue-excl-hint

464.h264ref: -fast -IPF-fp-relaxed -ansi-alias -fno-alias -auto-ilp32
-no-prefetch -inline-factor=150 -opt-mod-versioning
-unroll-aggressive -opt-prefetch-next-iteration

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-ansi-alias -fno-alias -inline-max-per-routine=50
-inline-factor=150 -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a

473.astar: -fast -IPF-fp-relaxed -no-prefetch -ansi-alias -fno-alias
-inline-max-size=5000 -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a

Continued on next page

Peak Optimization Flags (Continued)

483.xalancbmk: `-fast -IPF-fp-relaxed -unroll-aggressive -ansi-alias -no-opt-prefetch-initial-values -Wl,-z,muldefs /opt/SmartHeap_8/lib/libsmartheapC64.a /opt/SmartHeap_8/lib/libsmartheap64.a`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.xml`

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

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