SPEC® CINT2006 Result

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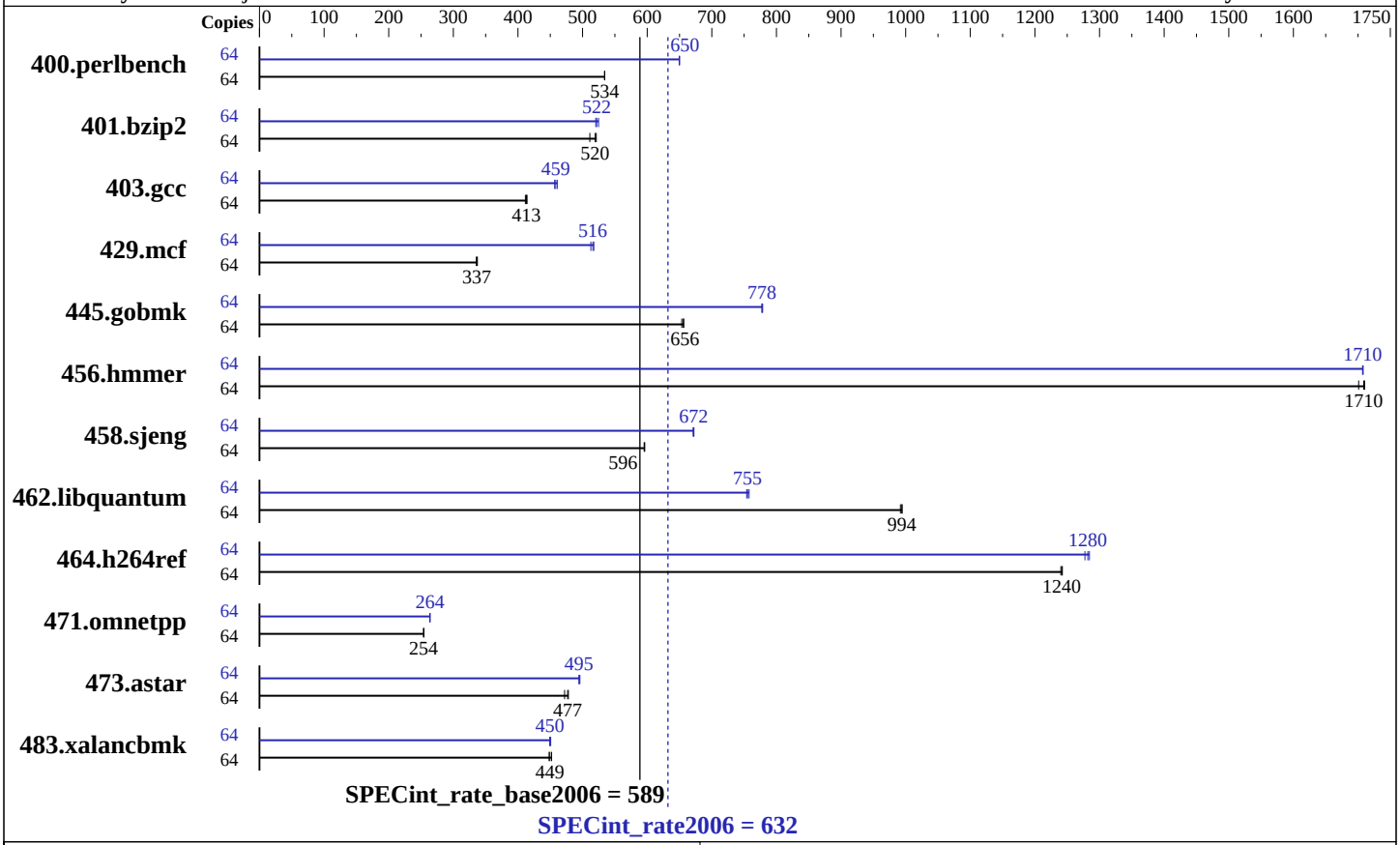
Fujitsu Limited
PRIMEQUEST 580A

SPECint®_rate2006 = 632

SPECint_rate_base2006 = 589

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 9130M
CPU Characteristics:	1.66GHz/8MB, 667MHz FSB
CPU MHz:	1667
FPU:	Integrated
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip
CPU(s) orderable:	2-32 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:	4 MB I+D on chip per core
Other Cache:	None
Memory:	512 GB (256 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	64	1170	534	**1171**	**534**	1171	534	64	962	650	962	650	**962**	**650**
401.bzip2	64	1185	521	**1189**	**520**	1208	511	64	1177	525	**1183**	**522**	1187	520
403.gcc	64	**1247**	**413**	1252	411	1244	414	64	1128	457	1118	461	**1124**	**459**
429.mcf	64	1731	337	**1734**	**337**	1740	335	64	**1131**	**516**	1128	517	1138	513
445.gobmk	64	**1024**	**656**	1022	657	1027	653	64	**863**	**778**	862	779	863	777
456.hmmer	64	349	1710	351	1700	**349**	**1710**	64	350	1710	**350**	**1710**	350	1710
458.sjeng	64	**1299**	**596**	1299	596	1301	595	64	1154	671	**1152**	**672**	1152	672
462.libquantum	64	1333	995	**1334**	**994**	1337	992	64	1750	758	1759	754	**1756**	**755**
464.h264ref	64	1140	1240	**1141**	**1240**	1142	1240	64	1103	1280	1109	1280	**1105**	**1280**
471.omnetpp	64	1575	254	**1574**	**254**	1572	254	64	**1516**	**264**	1518	264	1515	264
473.astar	64	952	472	940	478	**942**	**477**	64	**908**	**495**	906	496	908	495
483.xalancbmk	64	977	452	985	448	**983**	**449**	64	983	449	**982**	**450**	980	451

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`

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