SPEC® CINT2006 Result

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Bull SAS

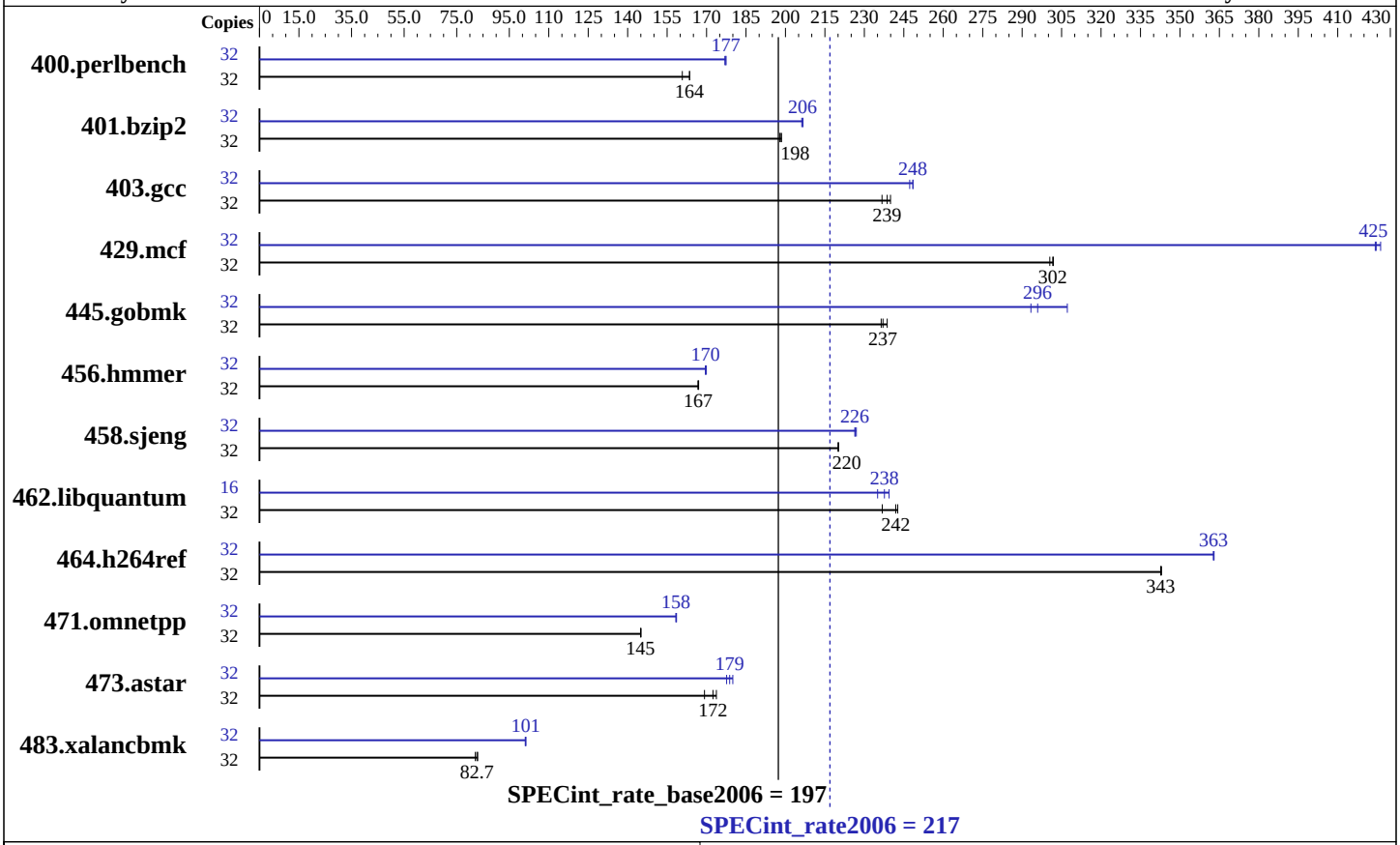
Bull Escala PL1650R+ (2200 MHz, 16 CPU)

SPECint®_rate2006 = 217

SPECint_rate_base2006 = 197

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Feb-2007
Hardware Availability: Feb-2006
Software Availability: Dec-2006



Hardware

CPU Name:	POWER5+
CPU Characteristics:	
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	2, 4, 6, 8 chips
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	1920 KB I+D on chip per chip
L3 Cache:	36 MB I+D off chip per chip
Other Cache:	None
Memory:	128 GB (32x4 GB)
Disk Subsystem:	1x73 GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 8.0 for AIX with the December 2006 PTF XL Fortran Enterprise Edition Version 10.1 for AIX with the November 2006 PTF
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	ESSL 4.2.0.4

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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	1945	161	**1912**	**164**	1911	164	32	1763	177	1767	177	**1763**	**177**
401.bzip2	32	1556	199	1560	198	**1559**	**198**	32	1494	207	1498	206	**1495**	**206**
403.gcc	32	**1079**	**239**	1088	237	1074	240	32	1037	248	**1037**	**248**	1042	247
429.mcf	32	971	301	**968**	**302**	967	302	32	**687**	**425**	685	426	688	424
445.gobmk	32	1406	239	**1416**	**237**	1420	236	32	1093	307	1144	293	**1134**	**296**
456.hmmer	32	1788	167	**1789**	**167**	1791	167	32	1761	170	**1760**	**170**	1757	170
458.sjeng	32	1759	220	1759	220	**1759**	**220**	32	**1710**	**226**	1706	227	1710	226
462.libquantum	32	2732	243	**2740**	**242**	2800	237	16	1385	239	1410	235	**1395**	**238**
464.h264ref	32	**2066**	**343**	2066	343	2065	343	32	**1952**	**363**	1951	363	1952	363
471.omnetpp	32	1380	145	**1380**	**145**	1379	145	32	**1263**	**158**	1261	159	1263	158
473.astar	32	1328	169	**1303**	**172**	1293	174	32	**1256**	**179**	1265	178	1248	180
483.xalancbmk	32	**2671**	**82.7**	2661	83.0	2690	82.1	32	2180	101	**2181**	**101**	2185	101

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

Operating System Notes

```
ulimits set to unlimited

bindprocessor command used on submit to bind each copy to a
unique processor.

Large page mode was set as follows:
vmo -r -o lgpg_regions=3200 -o lgpg_size=16777216
SMT was ebabled using the AIX commands
smtctl -m on -w boot
bosboot -aD
shutdown -rF
```

Base Compiler Invocation

C benchmarks:

```
/usr/vac/bin/xlc
```

C++ benchmarks:

```
/usr/vacpp/bin/xlC
```

Base Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Base Optimization Flags

C benchmarks:
-qlanglvl=extc99 -O4 -qlargepage -D_ILS_MACROS -qalloca
-qipa=noobject -blpdata -qipa=threads

C++ benchmarks:
-O4 -qlargepage -D_ILS_MACROS -qrtti=all -qipa=noobject -blpdata
-qipa=threads

Base Other Flags

C benchmarks:
-bmaxdata:0x50000000 -qalias=noansi -qsuppress=1500-036

C++ benchmarks:
-bmaxdata:0x20000000 -qsuppress=1500-036

Peak Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc

C++ benchmarks:
/usr/vacpp/bin/xlC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Peak Optimization Flags

C benchmarks:

400.perlbench: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

401.bzip2: Same as 400.perlbench

403.gcc: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qalloca -qipa=noobject -blpdata -qipa=threads`

429.mcf: `-qlanglvl=extc99 -O5 -qlargepage -D_ILS_MACROS -qarch=pwr4 -qipa=noobject -blpdata -qipa=threads`

445.gobmk: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

456.hmmer: `-qlanglvl=extc99 -O4 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

458.sjeng: Same as 445.gobmk

462.libquantum: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -q64 -qipa=noobject -blpdata -qipa=threads`

464.h264ref: Same as 400.perlbench

C++ benchmarks:

471.omnetpp: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qalign=natural -qrtti=all -D__IBM_FAST_VECTOR -qipa=noobject -blpdata -qipa=threads`

473.astar: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -D__IBM_ENABLE_POOLED_ALLOCATORS__ -qipa=noobject -blpdata -qipa=threads`

483.xalancbmk: Same as 473.astar

Peak Other Flags

C benchmarks (except as noted below):
`-qfdpr -qsuppress=1500-036`

Continued on next page

Peak Other Flags (Continued)

400.perlbench: `-bmaxdata:0x50000000 -qalias=noansi -qsuppress=1500-036`

401.bzip2: `-bmaxdata:0x50000000 -qsuppress=1500-036`

403.gcc: `-bmaxdata:0x50000000 -qsuppress=1500-036`

429.mcf: `-bmaxdata:0x50000000 -qfdpr -qsuppress=1500-036`

458.sjeng: `-qsuppress=1500-036`

464.h264ref: `-qsuppress=1500-036`

C++ benchmarks:
`-bmaxdata:0x20000000 -qsuppress=1500-036`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.15.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.15.xml`

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