SPEC® CINT2006 Result

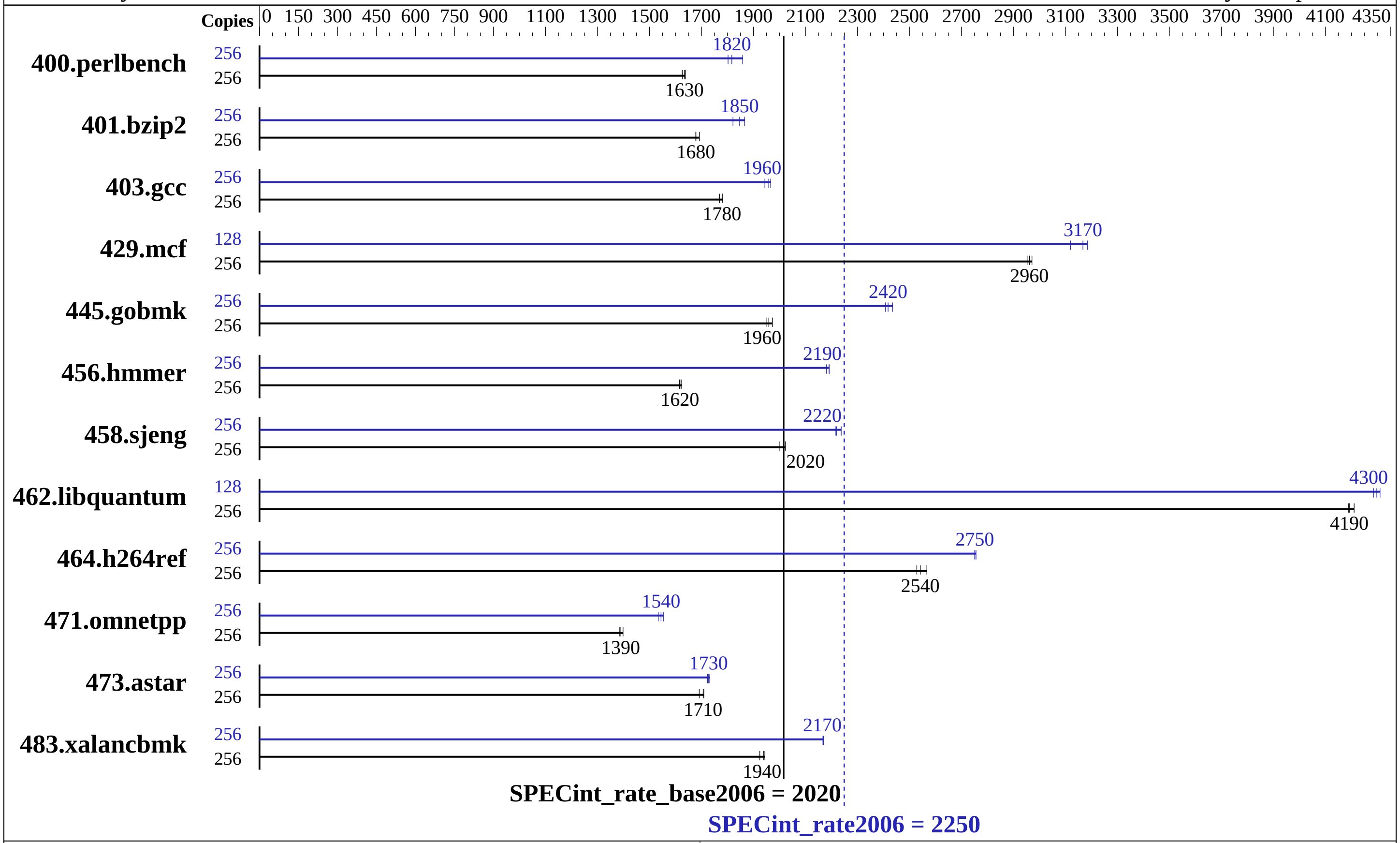
Bull SAS

Escala M6-700 (3.1 GHz, 64 core)

SPECint®_rate2006 = 2250

SPECint_rate_base2006 = 2020

CPU2006 license:	20	**Test date:**	Sep-2010
Test sponsor:	Bull SAS	**Hardware Availability:**	Mar-2010
Tested by:	Bull SAS	**Software Availability:**	Sep-2010



Hardware

CPU Name:	POWER7
CPU Characteristics:	Intelligent Energy Optimization enabled, up to 3.41 GHz
CPU MHz:	3100
FPU:	Integrated
CPU(s) enabled:	64 cores, 8 chips, 8 cores/chip, 4 threads/core
CPU(s) orderable:	12,16,24,32,36,48,64 cores
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per core
Other Cache:	None
Memory:	512 GB (64 x 8 GB 2Rx8 PC3L-8500R-7, ECC)
Disk Subsystem:	6 x 69 GB SAS SSD disks + 1 disk 15krpm 147 GB SAS
Other Hardware:	None

Software

Operating System:	IBM AIX V6.1 with the 6100-06 Technology Level
Compiler:	XL C/C++ Enterprise Edition V10.1.0.5 for AIX
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	256	1538	1630	**1530**	**1630**	1527	1640	256	1388	1800	**1377**	**1820**	1346	1860
401.bzip2	256	1472	1680	**1471**	**1680**	1460	1690	256	1324	1870	**1338**	**1850**	1356	1820
403.gcc	256	**1158**	**1780**	1164	1770	1157	1780	256	1060	1940	**1052**	**1960**	1048	1970
429.mcf	256	791	2950	**788**	**2960**	786	2970	128	**369**	**3170**	367	3180	374	3120
445.gobmk	256	**1371**	**1960**	1378	1950	1361	1970	256	1103	2440	1115	2410	**1111**	**2420**
456.hmmer	256	1471	1620	**1477**	**1620**	1479	1620	256	1095	2180	**1090**	**2190**	1090	2190
458.sjeng	256	1531	2020	**1536**	**2020**	1548	2000	256	1397	2220	**1396**	**2220**	1384	2240
462.libquantum	256	1266	4190	**1265**	**4190**	1260	4210	128	**617**	**4300**	619	4290	615	4310
464.h264ref	256	2241	2530	2207	2570	**2229**	**2540**	256	2059	2750	**2059**	**2750**	2055	2760
471.omnetpp	256	**1151**	**1390**	1155	1390	1144	1400	256	1030	1550	**1036**	**1540**	1043	1530
473.astar	256	1051	1710	**1053**	**1710**	1062	1690	256	1038	1730	**1040**	**1730**	1043	1720
483.xalancbmk	256	909	1940	**911**	**1940**	918	1920	256	814	2170	**814**	**2170**	816	2160

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

Peak Tuning Notes

```
fdpr binary optimization tool used for 400.perlbench
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 401.bzip2
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 403.gcc
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 429.mcf
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 445.gobmk
 with options -O3 -vrox -sdp 9
fdpr binary optimization tool used for 456.hmmer
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 458.sjeng
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 462.libquantum
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 464.h264ref
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 471.omnetpp
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 473.astar
 with options -O4 -vrox -pbsi
```

Submit Notes

```
The config file option 'submit' was used
to assign benchmark copy to specific kernel thread using
the "bindprocessor" command (see flags file for details).
```

Operating System Notes

```
all ulimits set to unlimited.
25600 16M large pages defined with vmo command
```

General Notes

```
Environment variables set by runspec before the start of the run:
MALLOCOPTIONS = "pool"
MEMORY_AFFINITY = "MCM"
XLFRTEOPTS = "intrinthds=1"

 See the flags file for details on settings.
```

Base Compiler Invocation

C benchmarks:
`/usr/vac/bin/xlc -qlanglvl=extc99`

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:
```
-bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS -qalias=noansi
-qalloca -blpdata
```

C++ benchmarks:
```
-bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS -qrtti=all
-D__IBM_FAST_SET_MAP_ITERATOR -blpdata
```

Base Other Flags

C benchmarks:
`-qipa=threads -qipa=noobject -qsuppress=1500-036`

C++ benchmarks:
`-qipa=threads -qipa=noobject -qsuppress=1500-036`

Peak Compiler Invocation

C benchmarks:
`/usr/vac/bin/xlc -qlanglvl=extc99`

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: `-bmaxdata:0x50000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -D_ILS_MACROS -qalias=noansi -qfdpr -blpdata -btextpsize:64K`

401.bzip2: `-bmaxdata:0x4ffffffc -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qfdpr -blpdata`

403.gcc: `-bmaxdata:0x50000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -qalloca -qfdpr -blpdata`

429.mcf: `-bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS -qfdpr -blpdata`

445.gobmk: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O3 -qarch=auto -qtune=auto -qlargepage -D_ILS_MACROS -qfdpr -blpdata`

456.hmmer: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata -btextpsize:64K`

Continued on next page

Peak Optimization Flags (Continued)

458.sjeng: -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

462.libquantum: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -q64 -D_ILS_MACROS -qfdpr -blpdata

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -D_ILS_MACROS -qfdpr -blpdata -btextpsize:64K

C++ benchmarks:

471.omnetpp: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qfdpr -qalign=natural -qrtti=all -qinlglue -D__IBM_FAST_SET_MAP_ITERATOR -blpdata -btextpsize:64K

473.astar: -bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS -qfdpr -qenablevmx -qvecnvol -qinlglue -qalign=natural -blpdata

483.xalancbmk: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qfdpr -qinlglue -D__IBM_FAST_VECTOR -blpdata -btextpsize:64K

Peak Other Flags

C benchmarks:
-qipa=threads -qipa=noobject -qsuppress=1500-036

C++ benchmarks:
-qipa=threads -qipa=noobject -qsuppress=1500-036

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IBM-AIX.20101027.html
http://www.spec.org/cpu2006/flags/IBM-XL.20101027.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-AIX.20101027.xml
http://www.spec.org/cpu2006/flags/IBM-XL.20101027.xml

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

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