



SPEC® CINT2006 Result

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Bull SAS

SPECint®2006 = 19.2

Bull Escala PL1660 (4.2 GHz, 1 core)

SPECint_base2006 = 15.8

CPU2006 license: 20

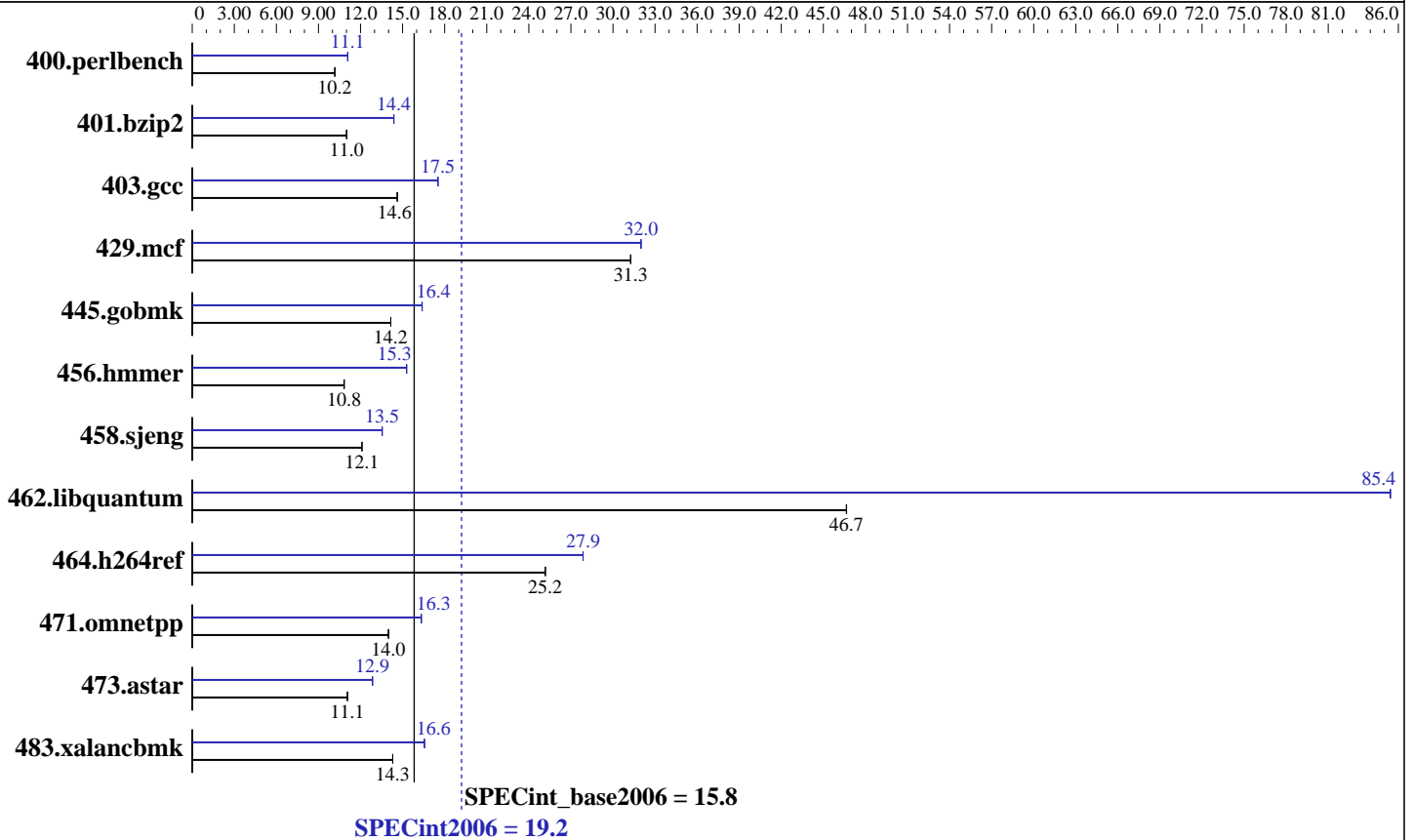
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jun-2008

Hardware Availability: Mar-2008

Software Availability: Oct-2007



Hardware

CPU Name: POWER6
 CPU Characteristics:
 CPU MHz: 4200
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip
 CPU(s) orderable: 4,8,12,16 cores (1 to 4 drawers with 2 chips)
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per core
 L3 Cache: 32 MB I+D off chip per chip
 Other Cache: None
 Memory: 128 GB (64x2 GB) DDR2 667 MHz
 Disk Subsystem: 2x73 GB SAS 15K RPM
 Other Hardware: None

Software

Operating System: IBM AIX 5L V5.3 updated with the 5300-07 Technology Level
 Compiler: XL C/C++ Enterprise Edition V9 for AIX Updated with the Oct2007 PTF.
 Auto Parallel: No
 File System: AIX/JFS2
 System State: Multi-user
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: None



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	961	10.2	960	10.2	<u>961</u>	<u>10.2</u>	<u>881</u>	<u>11.1</u>	881	11.1	881	11.1
401.bzip2	877	11.0	876	11.0	<u>877</u>	<u>11.0</u>	671	14.4	671	14.4	<u>671</u>	<u>14.4</u>
403.gcc	<u>551</u>	<u>14.6</u>	551	14.6	551	14.6	460	17.5	459	17.5	<u>459</u>	<u>17.5</u>
429.mcf	292	31.3	292	31.3	<u>292</u>	<u>31.3</u>	285	32.0	285	32.0	<u>285</u>	<u>32.0</u>
445.gobmk	741	14.2	<u>741</u>	<u>14.2</u>	741	14.2	640	16.4	640	16.4	<u>640</u>	<u>16.4</u>
456.hmmmer	861	10.8	<u>861</u>	<u>10.8</u>	861	10.8	610	15.3	<u>610</u>	<u>15.3</u>	610	15.3
458.sjeng	1000	12.1	<u>1000</u>	<u>12.1</u>	1000	12.1	894	13.5	<u>893</u>	<u>13.5</u>	893	13.5
462.libquantum	<u>444</u>	<u>46.7</u>	444	46.6	444	46.7	243	85.4	<u>243</u>	<u>85.4</u>	243	85.4
464.h264ref	879	25.2	<u>879</u>	<u>25.2</u>	879	25.2	794	27.9	<u>794</u>	<u>27.9</u>	794	27.9
471.omnetpp	447	14.0	<u>447</u>	<u>14.0</u>	447	14.0	383	16.3	<u>383</u>	<u>16.3</u>	383	16.3
473.astar	634	11.1	634	11.1	<u>634</u>	<u>11.1</u>	546	12.8	546	12.9	<u>546</u>	<u>12.9</u>
483.xalancbmk	483	14.3	483	14.3	<u>483</u>	<u>14.3</u>	417	16.6	417	16.6	<u>417</u>	<u>16.6</u>

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

General Notes

See flags file of details on following settings.
all ulimits set to unlimited.
Environment variables set before executing benchmarks:
MALLOCOPTIONS=pool
MEMORY_AFFINITY=MCM
XLFRTOPTS=intrinthds=1
System set to "Enhanced" mode when defining partition on HMC.
Remote console disabled in /etc/inittab.
fdpr binary optimization tool used for:
400.perlbench 401.bzip2 403.gcc 429.mcf 456.hmmmer
458.sjeng 462.libquantum 464.h264ref 473.astar
Speed run on 1 core partition defined on HMC;
(unused cores are powered on, but their clock is halted;
Full L3 cache of the chip is used by the remaining core)
4000 16M large pages defined with vmo command

Base Compiler Invocation

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

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



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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
-blpdata

Base Other Flags

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

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

Peak Compiler Invocation

Same as Base Compiler Invocation

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
403.gcc: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

400.perlbench: -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O4
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS
-qalias=noansi -qfdpr -blpdata

401.bzip2: -bmaxdata:0x4fffffff -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS -qfdpr
-blpdata

403.gcc: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage
-D_ILS_MACROS -qalloca -qfdpr -q64 -blpdata

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

445.gobmk: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -blpdata

456.hmmer: -O5 -qlargepage -D_ILS_MACROS -qfdpr -blpdata

458.sjeng: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -qfdpr -blpdata

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

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -q64 -D_ILS_MACROS
-qenablevmx -qvecnvml -qfdpr -bdatapsize:64K
-bstacksize:64K -btextsize:64K

C++ benchmarks:

471.omnetpp: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS
-qalign=natural -qrtti=all -qinlglue -blpdata

473.astar: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -D_ILS_MACROS -qfdpr -qinlglue
-qalign=natural -blpdata

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

Peak Other Flags

Same as Base Other Flags



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/IBM-AIX-XL.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/IBM-AIX-XL.xml>

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