



SPEC® CINT2006 Result

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Bull SAS

SPECint®2006 = 21.4

Bull Escala PL1660 (4700 MHz, 1 Core)

SPECint_base2006 = 17.6

CPU2006 license: 20

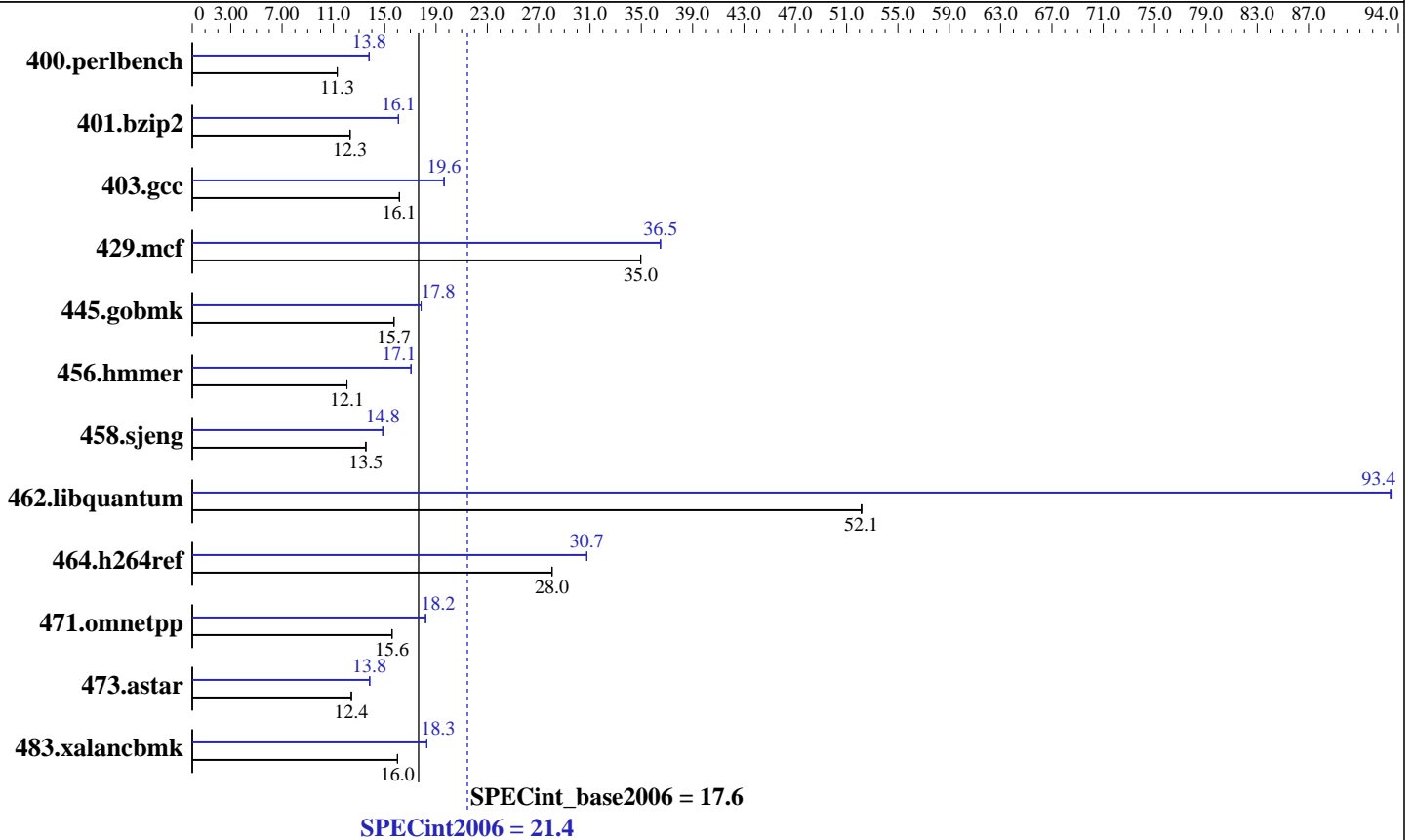
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Nov-2007

Hardware Availability: Oct-2007

Software Availability: Aug-2007



Hardware

CPU Name: POWER6
 CPU Characteristics:
 CPU MHz: 4700
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip
 CPU(s) orderable: 2,4,8,12,16 cores
 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: 64 GB (8x8GB) DDR2 667 MHZ
 Disk Subsystem: 2x73 GB SAS, 15K RPM
 Other Hardware: None

Software

Operating System: AIX 5L V5.3
 Compiler: XL C/C++ Enterprise Edition Version 9.0 for AIX + Aug07 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	865	11.3	864	11.3	864	11.3	709	13.8	708	13.8	709	13.8
401.bzip2	785	12.3	785	12.3	784	12.3	600	16.1	600	16.1	600	16.1
403.gcc	498	16.2	499	16.1	499	16.1	410	19.6	410	19.6	410	19.6
429.mcf	261	34.9	261	35.0	261	35.0	250	36.5	250	36.5	250	36.5
445.gobmk	667	15.7	667	15.7	667	15.7	588	17.8	588	17.8	588	17.8
456.hammer	774	12.1	774	12.1	774	12.1	547	17.1	547	17.1	547	17.1
458.sjeng	894	13.5	894	13.5	894	13.5	815	14.8	815	14.8	815	14.9
462.libquantum	397	52.2	397	52.1	397	52.1	222	93.4	222	93.4	222	93.4
464.h264ref	789	28.0	789	28.0	789	28.0	720	30.8	720	30.7	720	30.7
471.omnetpp	402	15.6	401	15.6	401	15.6	344	18.2	344	18.2	344	18.2
473.astar	566	12.4	566	12.4	566	12.4	508	13.8	508	13.8	508	13.8
483.xalancbmk	431	16.0	431	16.0	431	16.0	377	18.3	377	18.3	377	18.3

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

Operating System Notes

AIX 5.3 Updated with the 5300-06 Technology Level
ulimits set to unlimited

Environment variables set before executing benchmarks:

```
MALLOCOPTIONS=pool
MEMORY_AFFINITY=MCM
XLFRTEOPTS=intrinths=1
```

System set to "Enhanced" mode when defining partition on HMC
bindprocessor command used on submit to bind each copy to a
unique processor.

Large page mode was set as follows:

```
vmo -r -o lpgg_regions=768 -o lpgg_size=16777216
```

General Notes

Speed run on 1 core partition defined on HMC
fdpr binary optimization tool used for
401.bzip2 403.gcc 429.mcf 456.hammer 462.libquantum 473.astar

Base Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc

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Base Compiler Invocation (Continued)

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 -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



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Peak Optimization Flags

C benchmarks:

400.perlbench: -qlanglvl=extc99 -bmaxdata:0x50000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvml
-D_ILS_MACROS -qalias=noansi -blpdata

401.bzip2: -qlanglvl=extc99 -bmaxdata:0x4fffffff -qpdf1(pass 1)
-qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvml
-D_ILS_MACROS -blpdata

403.gcc: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -D_ILS_MACROS -qalloca -q64 -blpdata

429.mcf: -qlanglvl=extc99 -bmaxdata:0x50000000 -O5 -qlargepage
-qenablevmx -qvecnvml -D_ILS_MACROS -blpdata

445.gobmk: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS -blpdata

456.hmmer: -qlanglvl=extc99 -O5 -qlargepage -D_ILS_MACROS -blpdata

458.sjeng: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O4
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS -blpdata

462.libquantum: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS -q64
-blpdata

464.h264ref: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -D_ILS_MACROS -blpdata

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 -qenablevmx -qvecnvml -D_ILS_MACROS -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/CPU2006_flags.20090714.08.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.xml

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