



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 856

IBM Flex System p260 (4.1 GHz, 16 core)

SPECint_rate_base2006 = 607

CPU2006 license: 11

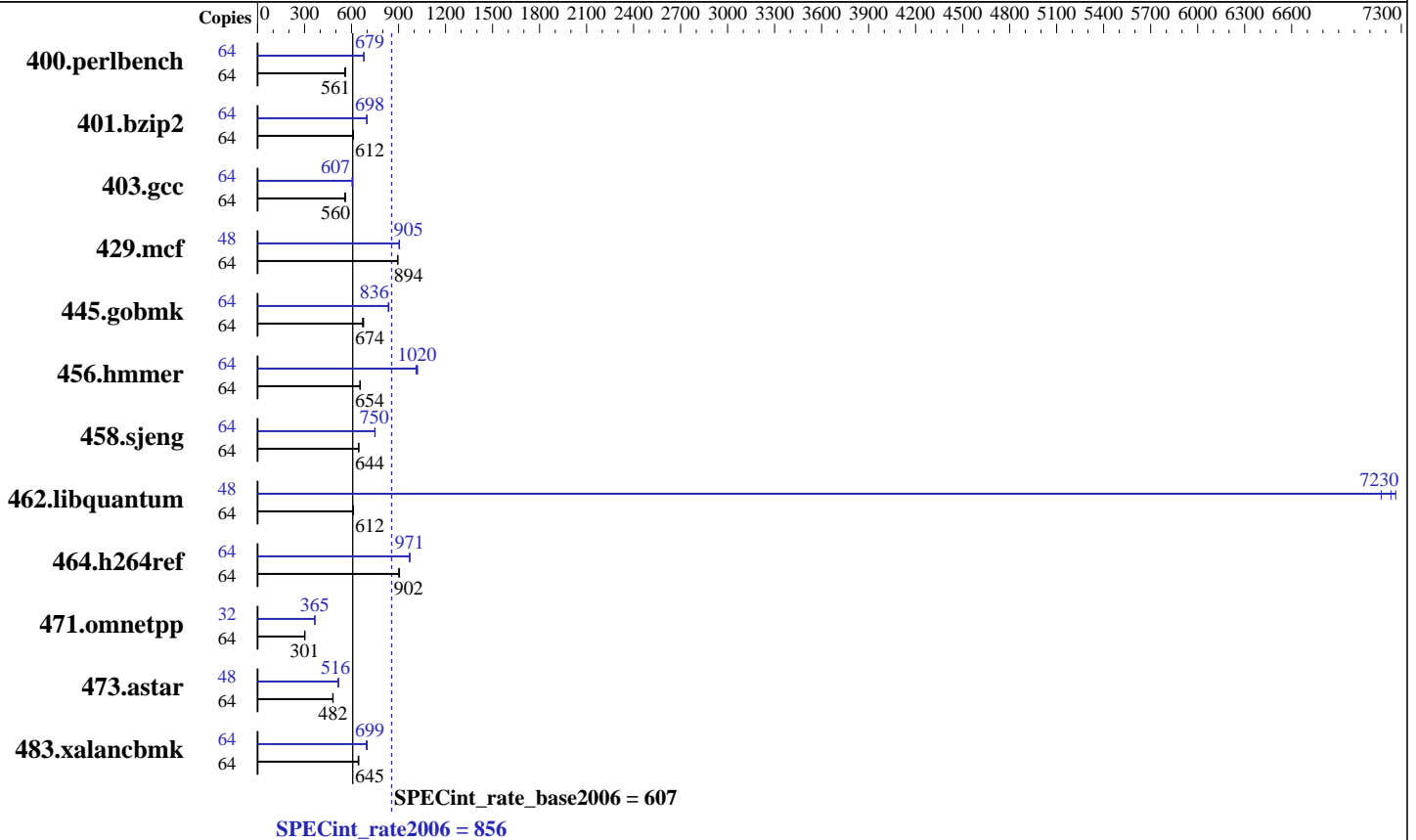
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2012

Hardware Availability: Dec-2012

Software Availability: Nov-2012



Hardware

CPU Name: POWER7+
 CPU Characteristics: Intelligent Energy Optimization enabled, up to 4.340 GHz
 CPU MHz: 4116
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 4 threads/core
 CPU(s) orderable: 16 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: 10 MB I+D on chip per core
 Other Cache: None
 Memory: 128 GB (16 x 8 GB) DDR3 1066 MHz
 Disk Subsystem: 1 x 177 GB Raid0 SFF-1 SSD
 Other Hardware: None

Software

Operating System: IBM AIX V7.1
 Compiler: C/C++: Version 12.1 of IBM XL C/C++ 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



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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	<u>1115</u>	<u>561</u>	1125	556	1112	562	64	921	679	<u>921</u>	<u>679</u>	922	678
401.bzip2	64	1010	611	1010	612	<u>1010</u>	<u>612</u>	64	<u>885</u>	<u>698</u>	886	697	885	698
403.gcc	64	924	557	<u>920</u>	<u>560</u>	919	561	64	848	607	855	603	<u>849</u>	<u>607</u>
429.mcf	64	653	894	651	896	<u>653</u>	<u>894</u>	48	485	903	483	906	<u>484</u>	<u>905</u>
445.gobmk	64	<u>995</u>	<u>674</u>	1002	670	991	677	64	805	834	801	838	<u>803</u>	<u>836</u>
456.hammer	64	912	655	913	654	<u>913</u>	<u>654</u>	64	585	1020	<u>586</u>	<u>1020</u>	590	1010
458.sjeng	64	1195	648	1204	643	<u>1203</u>	<u>644</u>	64	1035	748	<u>1033</u>	<u>750</u>	1032	750
462.libquantum	64	2165	613	2167	612	<u>2165</u>	<u>612</u>	48	137	7260	139	7170	<u>137</u>	<u>7230</u>
464.h264ref	64	1571	902	<u>1569</u>	<u>902</u>	1563	906	64	1460	970	1457	972	<u>1459</u>	<u>971</u>
471.omnetpp	64	1324	302	<u>1328</u>	<u>301</u>	1329	301	32	547	366	<u>547</u>	<u>365</u>	549	365
473.astar	64	<u>933</u>	<u>482</u>	932	482	937	480	48	<u>653</u>	<u>516</u>	656	513	653	516
483.xalanbmk	64	688	642	684	646	<u>685</u>	<u>645</u>	64	632	699	<u>632</u>	<u>699</u>	636	694

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

Compiler Invocation Notes

C/C++ compiler updated to November 2012 PTF
Version: 12.01.0000.0002

Peak Tuning Notes

```

400.perlbench fdpr options: -O4 -cbpth -1 -sdp -1
401.bzip2 fdpr options: -O4 -vrox -nobldcg -sdp -1
403.gcc fdpr options: -O4 -cbpth -1 -sdp -1
429.mcf fdpr options: -O2
445.gobmk fdpr options: -O3
456.hammer fdpr options: -O3 -bldcg -ccc 10
458.sjeng fdpr options: -O3
464.h264ref fdpr options: -O4 -sdp -1 -vrox -lu -1
473.astar fdpr options: -O3 -vrox -bldcg
483.xalanbmk fdpr options: -O3 -bldcg -lu -1 -lux 1

```

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).



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Operating System Notes

AIX updated to V7.1 TL 2 SP1

All ulimits set to unlimited.

6400 16M large pages defined with vmo command

Platform Notes

This Compute Node is housed in an
"IBM Flex System Enterprise Chassis"

General Notes

Environment variables set by runspec before the start of the run:

MALLOCOPTIONS = "pool"

MEMORY_AFFINITY = "MCM"

XLFRTEOPTS = "intrinthds=1"

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:

-qipa=threads -bmaxdata:0x50000000 -qlargepage -O5 -qsimd -qvecnvoll
-D_ILS_MACROS -qalias=noansi -qalloca -blpdata

C++ benchmarks:

-qipa=threads -bmaxdata:0x20000000 -qlargepage -O4 -D_ILS_MACROS
-qrtti=all -D__IBM_FAST_SET_MAP_ITERATOR -blpdata



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Base Other Flags

C benchmarks:

-qipa=noobject -qsuppress=1500-036

C++ benchmarks:

-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) -O2
-qarch=auto -qtune=auto -D_ILS_MACROS -qalias=noansi
-blpdata -btextpsize:64K

401.bzip2: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O3 -qarch=auto -qtune=auto -qlargepage
-D_ILS_MACROS -blpdata -btextpsize:64K

403.gcc: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qalloca
-blpdata -btextpsize:64K

429.mcf: -qipa=threads -bmaxdata:0x50000000 -O5 -qsimd -qvecnvoll
-qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

445.gobmk: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

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Peak Optimization Flags (Continued)

456.hmmcr: -qipa=threads -O5 -qsimd -qvecnv1 -qassert=refalign
-D_ILS_MACROS -blpdata -btextpsize:64K

458.sjeng: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O4
-D_ILS_MACROS -blpdata -btextpsize:64K

462.libquantum: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -q64
-qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

464.h264ref: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd
-qvecnv1 -D_ILS_MACROS -blpdata -btextpsize:64K

C++ benchmarks:

471.omnetpp: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O4 -qsimd -qvecnv1 -D_ILS_MACROS
-qalign=natural -qrtti=all -qinlglue
-D__IBM_FAST_SET_MAP_ITERATOR -blpdata -btextpsize:64K

473.astar: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qinlglue
-qalign=natural -blpdata -btextpsize:64K

483.xalancbmk: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
-qpdf2(pass 2) -O3 -qarch=auto -qtune=auto -qlargepage
-D_ILS_MACROS -qinlglue -D__IBM_FAST_VECTOR -blpdata
-btextpsize:64K

Peak Other Flags

C benchmarks (except as noted below):

-qipa=noobject -qsuppress=1500-036

400.perlbench: -qsuppress=1500-036

C++ benchmarks:

-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-XL.20110613.html>

<http://www.spec.org/cpu2006/flags/IBM-AIX.20110613.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/IBM-XL.20110613.xml>

<http://www.spec.org/cpu2006/flags/IBM-AIX.20110613.xml>



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For other inquiries, please contact webmaster@spec.org.

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