



# SPEC® CINT2006 Result

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## NEC Corporation

Express5800/T120a-M  
(Intel Xeon E5504)

SPECint®\_rate2006 = 136

SPECint\_rate\_base2006 = 127

CPU2006 license: 9006

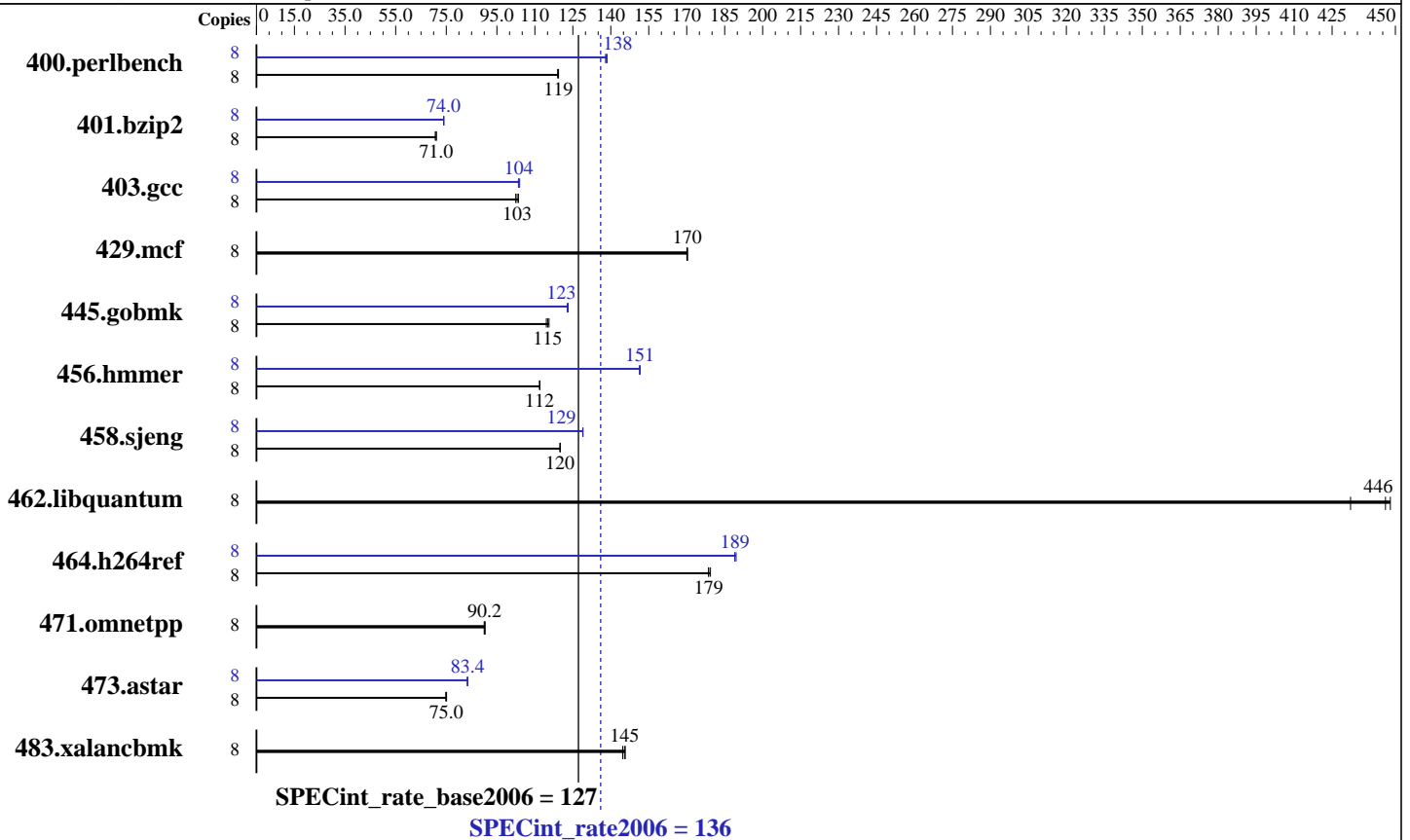
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Apr-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5504  
 CPU Characteristics:  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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 chip  
 Other Cache: None  
 Memory: 48 GB (12 X 4 GB PC3-8500R running at 800 MHz)  
 Disk Subsystem: 1x73.2 GB SAS, 15000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.081  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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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	8	657	119	655	119	<b>655</b>	<b>119</b>	8	564	139	<b>566</b>	<b>138</b>	567	138
401.bzip2	8	1086	71.1	1093	70.6	<b>1087</b>	<b>71.0</b>	8	1044	73.9	<b>1043</b>	<b>74.0</b>	1043	74.0
403.gcc	8	622	104	<b>625</b>	<b>103</b>	629	102	8	<b>621</b>	<b>104</b>	622	103	619	104
429.mcf	8	<b>429</b>	<b>170</b>	428	170	429	170	8	<b>429</b>	<b>170</b>	428	170	429	170
445.gobmk	8	<b>729</b>	<b>115</b>	726	116	733	115	8	<b>682</b>	<b>123</b>	684	123	681	123
456.hammer	8	667	112	666	112	<b>667</b>	<b>112</b>	8	493	151	492	152	<b>493</b>	<b>151</b>
458.sjeng	8	806	120	<b>807</b>	<b>120</b>	807	120	8	<b>751</b>	<b>129</b>	751	129	750	129
462.libquantum	8	<b>372</b>	<b>446</b>	370	448	383	432	8	<b>372</b>	<b>446</b>	370	448	383	432
464.h264ref	8	987	179	<b>991</b>	<b>179</b>	991	179	8	934	190	<b>936</b>	<b>189</b>	937	189
471.omnetpp	8	556	90.0	<b>554</b>	<b>90.2</b>	553	90.3	8	556	90.0	<b>554</b>	<b>90.2</b>	553	90.3
473.astar	8	751	74.8	748	75.1	<b>749</b>	<b>75.0</b>	8	675	83.3	<b>673</b>	<b>83.4</b>	673	83.5
483.xalancbmk	8	379	146	381	145	<b>380</b>	<b>145</b>	8	379	146	381	145	<b>380</b>	<b>145</b>

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

BIOS setting:  
NUMA configuration: Enabled

## General Notes

The NEC Express5800/T120a-M(Intel Xeon E5504) and the Bull NovaScale T860 E2 (Intel Xeon E5504, 2.00 GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/T120a-M(Intel Xeon E5504) model.

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /opt/intel/Compiler/11.0/081/bin/intel64/icc  
456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc  
458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):  
icpc

473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/icpc



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**Tested by:** NEC Corporation

**Software Availability:** Feb-2009

## Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```

## Peak Optimization Flags

C benchmarks:

```

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
               -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
               -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
            -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
          -opt-malloc-options=3

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
            -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
            -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
            -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
              -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
              -prof-use(pass 2) -unroll2 -ansi-alias

```

C++ benchmarks:

```

471.omnetpp: basepeak = yes

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -ansi-alias -opt-ra-region-strategy=routine -auto-ilp32
            -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib64 -lsmartheap64

```

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## Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revF.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.20090710.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revF.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.20090710.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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