# SPEC® CINT2006 Result
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## Itautec

SPECint®_rate2006 = 137

### Servidor Itautec MX224 (Intel Xeon E5640)

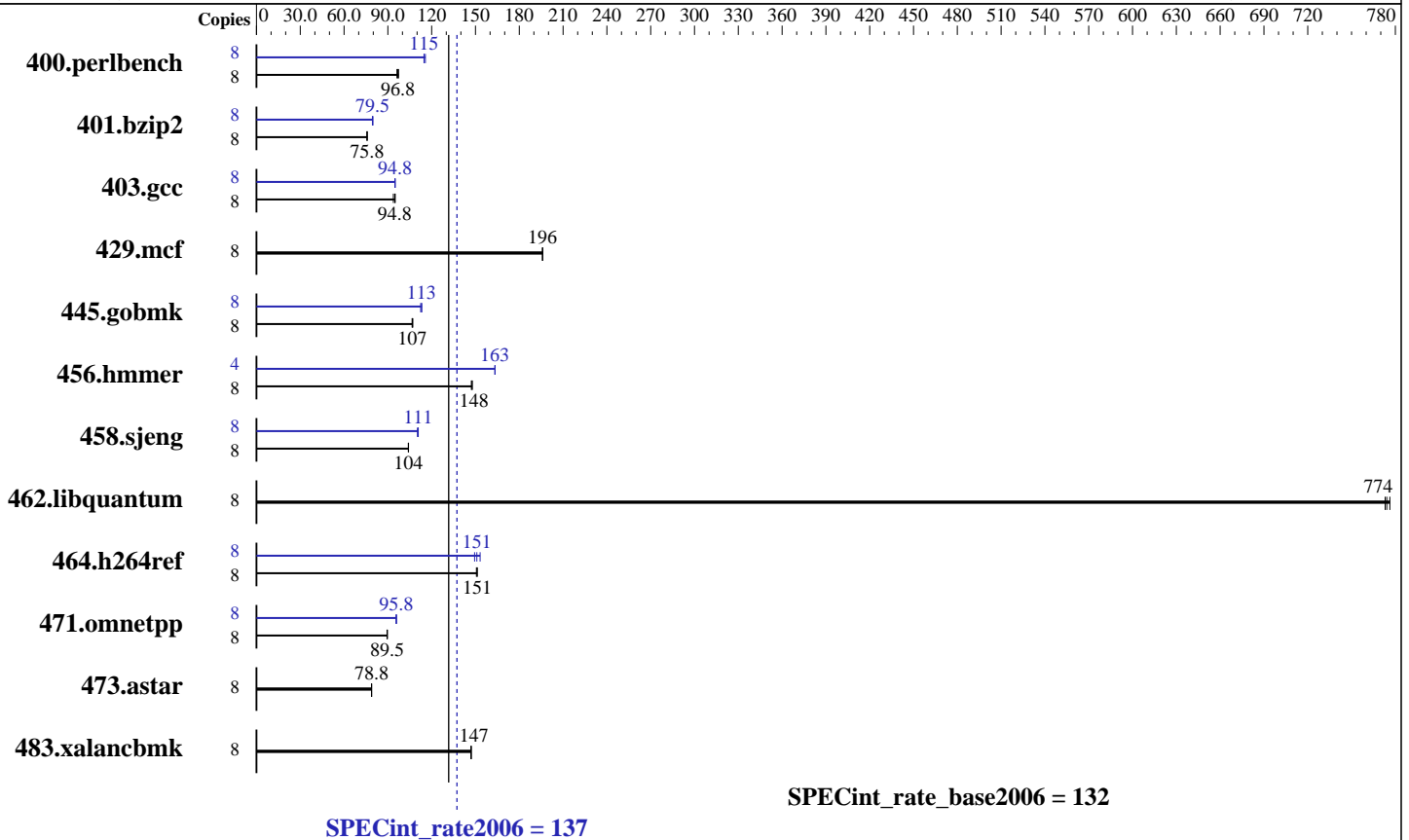SPECint_rate_base2006 = 132

**CPU2006 license:** 9001
**Test sponsor:** Itautec
**Tested by:** Itautec

**Test date:** Dec-2011
**Hardware Availability:** Jul-2011
**Software Availability:** Dec-2011



**Copies** 0  30.0  60.0  90.0  120  150  180  210  240  270  300  330  360  390  420  450  480  510  540  570  600  630  660  690  720  780

400.perlbench  8  115
8  96.8

401.bzip2  8  79.5
8  75.8

403.gcc  8  94.8
8  94.8

429.mcf  8  196

445.gobmk  8  113
8  107

456.hmmer  4  163
8  148

458.sjeng  8  111
8  104

462.libquantum  8  774

464.h264ref  8  151
8  151

471.omnetpp  8  95.8
8  89.5

473.astar  8  78.8

483.xalancbmk  8  147

SPECint_rate_base2006 = 132

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## Hardware

**CPU Name:** Intel Xeon E5640
**CPU Characteristics:** Intel Turbo Boost Technology up to 2.93 GHz
**CPU MHz:** 2667
**FPU:** Integrated
**CPU(s) enabled:** 4 cores, 1 chip, 4 cores/chip, 2 threads/core
**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:** 12 MB I+D on chip per chip
**Other Cache:** None
**Memory:** 24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)
**Disk Subsystem:** 2 x 146 GB, SAS, 15000 RPM, RAID 0
**Other Hardware:** None

## Software

**Operating System:** Red Hat Enterprise Linux Server Release 6.2, 2.6.32-220.el6.x86_64
**Compiler:** C/C++: Version 12.1.0 of Intel Compiler XE Build 20111011
**Auto Parallel:** No
**File System:** ext3
**System State:** Run level 3 (multi-user)
**Base Pointers:** 32-bit
**Peak Pointers:** 32/64-bit
**Other Software:** Microquill SmartHeap V8.1

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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 | 803 | 97.3 | 812 | 96.2 | **807** | **96.8** | 8 | **681** | **115** | 676 | 116 | 681 | 115 |
| 401.bzip2 | 8 | 1018 | 75.9 | 1020 | 75.7 | **1019** | **75.8** | 8 | **971** | **79.5** | 968 | 79.8 | 972 | 79.4 |
| 403.gcc | 8 | 678 | 95.0 | **680** | **94.8** | 687 | 93.8 | 8 | 678 | 95.0 | 679 | 94.8 | **679** | **94.8** |
| 429.mcf | 8 | 372 | 196 | **372** | **196** | 372 | 196 | 8 | 372 | 196 | **372** | **196** | 372 | 196 |
| 445.gobmk | 8 | **785** | **107** | 784 | 107 | 787 | 107 | 8 | 741 | 113 | 746 | 112 | **743** | **113** |
| 456.hmmer | 8 | 505 | 148 | **506** | **148** | 507 | 147 | 4 | 229 | 163 | **228** | **163** | 228 | 163 |
| 458.sjeng | 8 | **930** | **104** | 931 | 104 | 930 | 104 | 8 | 874 | 111 | 878 | 110 | **874** | **111** |
| 462.libquantum | 8 | **214** | **774** | 214 | 776 | 214 | 773 | 8 | **214** | **774** | 214 | 776 | 214 | 773 |
| 464.h264ref | 8 | **1171** | **151** | 1171 | 151 | 1175 | 151 | 8 | 1185 | 149 | 1156 | 153 | **1173** | **151** |
| 471.omnetpp | 8 | 559 | 89.4 | **559** | **89.5** | 557 | 89.7 | 8 | 523 | 95.6 | 521 | 95.9 | **522** | **95.8** |
| 473.astar | 8 | 713 | 78.8 | 711 | 78.9 | **713** | **78.8** | 8 | 713 | 78.8 | 711 | 78.9 | **713** | **78.8** |
| 483.xalancbmk | 8 | **376** | **147** | 375 | 147 | 376 | 147 | 8 | **376** | **147** | 375 | 147 | 376 | 147 |

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.
     Large pages were not enabled for this run
```

## Platform Notes

```
    Data Reuse disabled in BIOS.
    DCU Prefetcher disabled in BIOS.
```

## General Notes

```
    This result was measured on the Servidor Itautec MX224.
    The Servidor Itautec MX203+, Servidor Itautec MX223+ and the Servidor Itautec MX224
    are electronically equivalent.
```

## Base Compiler Invocation

C benchmarks:
```
      icc  -m32
```

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# Base Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m32

# 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 -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
    -Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap

# Base Other Flags

C benchmarks:

    403.gcc: -Dalloca=_alloca

# Peak Compiler Invocation

C benchmarks (except as noted below):
    icc  -m32

    400.perlbench: icc -m64

    401.bzip2: icc -m64

    456.hmmer: icc -m64

    458.sjeng: icc -m64

C++ benchmarks:
    icpc -m32

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**Software Availability:** Dec-2011

# Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
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) `-prof-use`(pass 2)
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

401.bzip2: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-opt-prefetch -auto-ilp32 -ansi-alias`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`

429.mcf: basepeak = yes

445.gobmk: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-prof-use`(pass 2)
`-ansi-alias -auto-ilp32`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

458.sjeng: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-unroll4 -auto-ilp32`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

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) `-prof-use`(pass 2)
`-unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-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=block -Wl,-z,muldefs`
`-L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap`

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## Peak Optimization Flags (Continued)

473.astar: basepeak = yes

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/Itautec-Servidor_Itautec-Intel-Linux-Platform.html
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

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

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