**SPEC® CINT2006 Result**

**Fujitsu**

PRIMEQUEST 3800B, Intel Xeon Platinum 8180, 2.50GHz

---

**SPECint_rate2006 = Not Run**

**SPECint_rate_base2006 = 10500**

---

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu  
 **Test date:** Jun-2017  
**Hardware Availability:** Jul-2017  
**Software Availability:** Apr-2017

---

<table>
<thead>
<tr>
<th>Copies</th>
<th>10000</th>
<th>20000</th>
<th>30000</th>
<th>40000</th>
<th>50000</th>
<th>60000</th>
<th>70000</th>
<th>80000</th>
<th>90000</th>
<th>105000</th>
<th>120000</th>
<th>135000</th>
<th>150000</th>
<th>165000</th>
<th>180000</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>447</td>
<td>84101</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>447</td>
<td>4940</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>447</td>
<td>7270</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>447</td>
<td>13000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>447</td>
<td>6960</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>447</td>
<td>14600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>447</td>
<td>7400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>447</td>
<td>12600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>447</td>
<td>10500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>447</td>
<td>5520</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>447</td>
<td>10500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>447</td>
<td>180000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon Platinum 8180  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.80 GHz  
- **CPU MHz:** 2500  
- **FPU:** Integrated  
- **CPU(s) enabled:** 224 cores, 8 chips, 28 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 2,4,6,8 chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 1 MB I+D on chip per core  
- **L3 Cache:** 38.5 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 3 TB (96 x 32 GB 2Rx4 PC4-2666V-R)  
- **Disk Subsystem:** 6044 GB tmpfs  
- **Other Hardware:** None

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default  
- **Compiler:** C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux  
- **Auto Parallel:** No  
- **File System:** tmpfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** Microquill SmartHeap V10.2
SPEC CINT2006 Result

Fujitsu

PRIMEQUEST 3800B, Intel Xeon Platinum 8180, 2.50GHz

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 10500

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu
Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Apr-2017

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>447</td>
<td>519</td>
<td>8410</td>
<td>520</td>
<td>8410</td>
<td>519</td>
<td>8410</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>447</td>
<td>873</td>
<td>4940</td>
<td>871</td>
<td>4950</td>
<td>873</td>
<td>4940</td>
</tr>
<tr>
<td>403.gcc</td>
<td>447</td>
<td>496</td>
<td>7260</td>
<td>495</td>
<td>7270</td>
<td>495</td>
<td>7270</td>
</tr>
<tr>
<td>429.mcf</td>
<td>447</td>
<td>313</td>
<td>13000</td>
<td>315</td>
<td>12900</td>
<td>314</td>
<td>13000</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>447</td>
<td>674</td>
<td>6960</td>
<td>674</td>
<td>6960</td>
<td>674</td>
<td>6960</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>447</td>
<td>285</td>
<td>14600</td>
<td>286</td>
<td>14600</td>
<td>287</td>
<td>14500</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>447</td>
<td>731</td>
<td>7400</td>
<td>731</td>
<td>7400</td>
<td>732</td>
<td>7390</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>447</td>
<td>51.5</td>
<td>180000</td>
<td>51.6</td>
<td>180000</td>
<td>51.4</td>
<td>180000</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>447</td>
<td>791</td>
<td>12500</td>
<td>778</td>
<td>12700</td>
<td>786</td>
<td>12600</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>447</td>
<td>593</td>
<td>4710</td>
<td>593</td>
<td>4710</td>
<td>593</td>
<td>4710</td>
</tr>
<tr>
<td>473.astar</td>
<td>447</td>
<td>569</td>
<td>5520</td>
<td>568</td>
<td>5530</td>
<td>568</td>
<td>5520</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>447</td>
<td>295</td>
<td>10500</td>
<td>293</td>
<td>10500</td>
<td>293</td>
<td>10500</td>
</tr>
</tbody>
</table>

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Kernel Boot Parameter set with: nohz_full=1-447 isolcpus=1-447
Turbo mode set with:
cpupower -c all frequency-set -g performance
Tmpfs filesystem can be set with:
mkdir /home/memory
mount -t tmpfs -o size=6044g,rw tmpfs /home/memory
Process tuning setting:
echo 10000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 15000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
echo 0 > /proc/sys/kernel/numa_balancing
echo always > /sys/kernel/mm/transparent_hugepage/enabled
cpu idle state set with:
cpupower idle-set -d 2
cpupower idle-set -d 3

Platform Notes

BIOS configuration:
Intel Virtualization Technology = Disabled
Enable CPU HWPM = Disabled

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Fujitsu

PRIMEQUEST 3800B, Intel Xeon Platinum 8180, 2.50GHz

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 10500

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Apr-2017

Platform Notes (Continued)

Override OS Energy Performance = Enabled
Utilization Profile = Unbalanced
Stale AtoS = Enabled
LLC dead line alloc = Disabled
 Sysinfo program /home/memory/SPECcpu/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
runtime on linux-k55j Sun Jun 25 04:26:57 2017

This section contains SUT (System Under Test) info as seen by
some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
  8 "physical id"s (chips)
  448 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)

  cpu cores : 28
  siblings : 56
  physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 23 24
  25 26 27 28 29 30
  physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 4: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 5: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 6: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  physical 7: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
  cache size : 39424 KB

From /proc/meminfo
MemTotal: 3169249540 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc*/version*
SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 2
  # This file is deprecated and will be removed in a future service pack or
  # release.
  # Please check /etc/os-release for details about this release.
**Platform Notes (Continued)**

```
os-release:  
NAME="SLES"  
VERSION="12-SP2"  
VERSION_ID="12.2"  
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"  
ID="sles"  
ANSI_COLOR="0;32"  
CPE_NAME="cpe:/o:suse:sles:12:sp2"
```

```
uname -a:
(9464f67) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jun 25 04:19
```

```
SPEC is set to: /home/memory/SPECcpu
```

```
Additional information from dmidecode:
```

```
Warning: Use caution when you interpret this section. The 'dmidecode' program
reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to
hardware, firmware, and the "DMTF SMI BIOS" standard.
```

```
BIOS FUJITSU V1.0.0.0 R0.43.5 for D9989-B2x 06/23/2017
```

```
Memory:
96x Micron 36ASF4G72PZ-2G6D1 32 GB 2 rank 2666 MHz
```

```
(End of data from sysinfo program)
```

**General Notes**

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/memory/SPECcpu/lib/ia32:/home/memory/SPECcpu/lib/intel64:/home/memory/SPECcpu/sh10.2"
```

```
Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
```

```
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

```
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
```

```
runcspec command invoked through numactl i.e.:
umactl --interleave=all runspec <etc>
```

**Base Compiler Invocation**

```
C benchmarks:
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

Continued on next page
SPEC CINT2006 Result

Fujitsu

PRIMEQUEST 3800B, Intel Xeon Platinum 8180, 2.50GHz

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 10500

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Apr-2017

Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

Base 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-ic17.0-official-linux64-revF.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevA.xml
<table>
<thead>
<tr>
<th>SPECint_rate2006 =</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006 =</td>
<td>10500</td>
</tr>
</tbody>
</table>

Fujitsu

PRIMEQUEST 3800B, Intel Xeon Platinum 8180, 2.50GHz

CPU2006 license: 19
Test date: Jun-2017
Test sponsor: Fujitsu
Hardware Availability: Jul-2017
Tested by: Fujitsu
Software Availability: Apr-2017

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Originally published on 13 July 2017.