## Benchmark Results

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Base Runtime</th>
<th>Base Ratio</th>
<th>Copies</th>
<th>Runtime</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>164.gzip</td>
<td>1</td>
<td>121</td>
<td>13.4</td>
<td>1</td>
<td>120</td>
<td>13.6</td>
</tr>
<tr>
<td>175.vpr</td>
<td>1</td>
<td>161</td>
<td>10.1</td>
<td>1</td>
<td>155</td>
<td>10.5</td>
</tr>
<tr>
<td>176.gcc</td>
<td>1</td>
<td>62.7</td>
<td>20.4</td>
<td>1</td>
<td>62.7</td>
<td>20.4</td>
</tr>
<tr>
<td>181.mcf</td>
<td>1</td>
<td>177</td>
<td>11.8</td>
<td>1</td>
<td>177</td>
<td>11.8</td>
</tr>
<tr>
<td>186.crafty</td>
<td>1</td>
<td>75.7</td>
<td>15.3</td>
<td>1</td>
<td>75.8</td>
<td>15.3</td>
</tr>
<tr>
<td>197.parser</td>
<td>1</td>
<td>140</td>
<td>14.9</td>
<td>1</td>
<td>140</td>
<td>14.9</td>
</tr>
<tr>
<td>252.eon</td>
<td>1</td>
<td>73.6</td>
<td>20.5</td>
<td>1</td>
<td>61.6</td>
<td>24.5</td>
</tr>
<tr>
<td>253.perlbmk</td>
<td>1</td>
<td>101</td>
<td>20.8</td>
<td>1</td>
<td>97.8</td>
<td>21.3</td>
</tr>
<tr>
<td>254.gap</td>
<td>1</td>
<td>62.1</td>
<td>20.5</td>
<td>1</td>
<td>61.1</td>
<td>20.9</td>
</tr>
<tr>
<td>255.vortex</td>
<td>1</td>
<td>77.4</td>
<td>28.5</td>
<td>1</td>
<td>77.3</td>
<td>28.5</td>
</tr>
<tr>
<td>256.bzip2</td>
<td>1</td>
<td>151</td>
<td>11.5</td>
<td>1</td>
<td>146</td>
<td>11.9</td>
</tr>
<tr>
<td>300.twolf</td>
<td>1</td>
<td>172</td>
<td>20.2</td>
<td>1</td>
<td>170</td>
<td>20.4</td>
</tr>
</tbody>
</table>

### Notes/Tuning Information

- **Operating System:** Windows Server 2003 Standard (Build 3790)
- **Compiler:** Intel C++ Compiler 8.0 Build 20031211Z
  - Microsoft Visual Studio.NET 7.0.9466 (for libraries)
  - MicroQuill Smartheap Library 7.0
- **File System:** NTFS
- **System State:** Default

### Hardware

- **CPU:** Intel Xeon (3.6GHz, 1MB L2, 800MHz bus)
- **CPU MHz:** 3600
- **CPU(s) enabled:** 1 core, 1 chip, 1 core/chip (HT Technology disabled)
- **CPU(s) orderable:** 1 core, 1 chip, 1 core/chip
- **Parallel:** No
- **Primary Cache:** 16K micro-ops I + 16KBD on chip
- **Secondary Cache:** 1024KB(I+D) on chip
- **L3 Cache:** N/A
- **Memory:** 2x1024MB PC2700 DDR-333
- **Disk Subsystem:** 1x230GB SATA

### Software

- **Operating System:** Windows Server 2003 Standard (Build 3790)
- **Compiler:** Intel C++ Compiler 8.0 Build 20031211Z
  - Microsoft Visual Studio.NET 7.0.9466 (for libraries)
  - MicroQuill Smartheap Library 7.0
- **File System:** NTFS
- **System State:** Default

### Notes/Tuning Information

+ FDO: PASS1=-Qprof_gen  PASS2=-Qprof_use
+ FDO*: FDO (~QxP not used in PASS1 to enable cross-compilation)

- **Base tuning for C programs:** -QxP -fast +FDO* shlw32M.lib
- **Base tuning for C++ programs:** -QxP -fast -GX -GR

#### Portability flags:

- **176.gcc:** -Dalloca=_alloca /F10000000
- **186.crafty:** -DNT_i386
- **253.perlbmk:** -DSPEC_CPU2000_NTOS -DPERLDLL /MT
- **254.gap:** -DSYS_HAS_CALLOC_PROTO -DSYS_HAS_MALLOC_PROTO

#### Peak tuning:

- **164.gzip:** -QxP -fast -Oa +FDO ONESTEP=yes
- **175.vpr:** -QxP -fast +FDO ONESTEP=yes
- **176.gcc:** basepeak = 1
- **181.mcf:** -QxP -fast +FDO ONESTEP=yes shlw32M.lib
- **186.crafty:** -QxP -fast -Oa +FDO ONESTEP=yes shlw32M.lib
- **197.parser:** -QxP -fast +FDO ONESTEP=yes shlw32M.lib
- **252.eon:** -QxP -O2 -Qipo +FDO*
- **253.perlbmk:** -fast -Oa +FDO ONESTEP=yes shlw32M.lib
- **254.gap:** -QxP -fast +FDO ONESTEP=yes
Hewlett-Packard Company
ProLiant DL360 G4 (3.6GHz, Intel Xeon)

SPECint_rate2000 = 17.0
SPECint_rate_base2000 = 16.6

Notes/Tuning Information (Continued)

255.vortex: -QxP -fast +FDO ONESTEP=yes shlw32M.lib
256.bzip2: -fast -Oa -Qunroll1 +FDO ONESTEP=yes
300.twolf: -QxP -fast -O3 +FDO* shlw32M.lib [-O3 not in Pass 1]

BIOS Configuration Notes
HT Technology disabled
Adjacent Sector Prefetch disabled

Submitted_by: "Horton, Richard (Server Performance)" <richard.horton@hp.com>
Submitted: Mon Oct  4 18:32:37 2004
Submission: cpu2000-20041004-03422.sub