Supermicro
H8DAR-8 (AMD Opteron (TM) 275)

SPECfp_rate2000 = 56.0
SPECfp_rate_base2000 = 53.4

Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio
---|---|---|---|---|---|---
168.wupwise | 4 | 75.4 | 98.4 | 4 | 75.4 | 98.4
171.swim | 4 | 331 | 43.4 | 250 | 47.6
172.mgrid | 4 | 176 | 47.3 | 4 | 176 | 47.3
173.applu | 4 | 224 | 43.5 | 4 | 200 | 48.8
177.mesa | 4 | 87.6 | 74.2 | 4 | 81.8 | 79.4
178.galgel | 4 | 153 | 88.1 | 4 | 142 | 94.8
179.art | 4 | 277 | 43.6 | 4 | 305 | 39.6
183.equake | 4 | 121 | 49.9 | 4 | 121 | 49.9
187.facerec | 4 | 134 | 65.6 | 4 | 130 | 68.0
188.ammp | 4 | 220 | 46.3 | 4 | 200 | 51.0
189.lucas | 4 | 191 | 48.6 | 4 | 185 | 50.0
191.fma3d | 4 | 198 | 49.1 | 4 | 184 | 52.9
200.sixtrack | 4 | 166 | 30.7 | 4 | 166 | 30.7
301.apsi | 4 | 222 | 54.3 | 4 | 222 | 54.3

Hardware
CPU: AMD Opteron (TM) 275
CPU MHz: 2200
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1, 2
Parallel: No
Primary Cache: 64KBI + 64KBD on chip
Secondary Cache: 1024KB(I+D) on chip
L3 Cache: N/A
Other Cache: N/A
Memory: 8 x 1024MB PC3200 REG ECC CL3 DDR SDRAM
Disk Subsystem: 1 X 300GB IDE
Other Hardware: None

Software
Compiler: Intel C++ 8.0 build 20040714Z, Intel Fortran 8.1 build 20041019Z,
PGI Fortran compiler 5.2-4 for Windows XP,
AMD Core Math library Version 2.1 (ACML),
Microsoft Visual Studio .NET 7.0.866 (libraries),
MicroQuill Smartheap Library 7.0
File System: NTFS
System State: Default

Notes/Tuning Information
Tested by Supermicro
+FDO: PASS1=-Qprof_gen PASS2=-Qprof_use
+ACML is linking with AMD Core Math Library V2.1
ONESTEP is set for all peak runs.
ifort is the Intel Fortran compiler, icl is the Intel C++ compiler and pgf90 is the PGI Fortran compiler.
The Intel C++ 8.0 and the Intel Fortran 8.1 compilers are setup in the following order:
"c:\program files\intel\fortran\compiler80\ia32\bin\ifortvars.bat"
"c:\program files\intel\cpp\compiler80\ia32\bin\iclvars.bat"
To make sure that the correct libraries are selected, the following link option is added for the peak runs where Intel Fortran 8.1 compiler is used:
LDOPT = -Fe$@ -link -LIBPATH:"c:\program files\intel\fortran\compiler80\ia32\lib"
(de noting by +LIBPATH:INTEL8.1 in the optimization flags listed below)
Portability:
178.galgel: -Mfixed
Baseline: C : icl -fast -arch:SSE2 -QaxW +FDO
Baseline: Fortran: pgf90 -fastsse -Mipa=fast,inline
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<table>
<thead>
<tr>
<th>Notes/Tuning Information (Continued)</th>
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</table>

Peak tuning:

<table>
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<tr>
<th>Application</th>
<th>Tuning Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>168.wupwise</td>
<td>pgf90 basepeak=yes</td>
</tr>
<tr>
<td>171.swim</td>
<td>icf -qipo -o3 -qaxn -qiw +fdo +qunroll10 +libpath: intel8.1</td>
</tr>
<tr>
<td>172.mgrid</td>
<td>pgf90 basepeak=yes</td>
</tr>
<tr>
<td>173.applu</td>
<td>icf -qipo -o3 -qaxn -qiw +fdo -auto +libpath: intel8.1</td>
</tr>
<tr>
<td>177.mesa</td>
<td>icf -qipo -arch:sse2 +fdo +qunroll11 -qansi_alias -qoption,f,-ip_ninl_max_stats=1500,-ip_ninl_max_total_stats=4500</td>
</tr>
<tr>
<td>179.art</td>
<td>icf -qipo -z4 +fdo</td>
</tr>
<tr>
<td>183.equake</td>
<td>icf basepeak=yes</td>
</tr>
<tr>
<td>178.galgel</td>
<td>pgf90 -fastsse -mipa=fast,safe RM_SOURCES=lapak.f90 -munix +ACML</td>
</tr>
<tr>
<td>188.ammp</td>
<td>icf -oa -arch:sse2 -z4 -qansi_alias -qoption,f,-ip_ninl_max_stats=2500,-ip_ninl_max_total_stats=7000</td>
</tr>
<tr>
<td>189.lucas</td>
<td>icf -qipo -qiw -qunroll11 +libpath: intel8.1</td>
</tr>
<tr>
<td>191.fma3d</td>
<td>icf -qipo -qaxn -qiw +fdo -qansi-alias - +libpath: intel8.1</td>
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Tested system can be used with a 420W (minimum) ATX power supply.