

# Performance Comparison – Fortran Compilers

## Polyhedron 2012 Benchmark Suite – AMD Piledriver

### Absoft Pro Fortran 2013 vs Intel Fortran 2013

Numbers are times in seconds, lower numbers are faster

<b>AMD Piledriver</b>	no auto-parallel		auto-parallel		no auto-parallel		auto-parallel	
<b>Benchmark</b>	<b>Absoft 2013</b>	<b>-04*</b>	<b>Absoft 2013</b>	<b>-05 p*</b>	<b>Intel 2013</b>	<b>-03*</b>	<b>Intel 2013</b>	<b>-03 p*</b>
AC	8.72	8.72	8.43	8.43	9.66	9.66	10.12	10.12
AERMOD	18.18	18.18	18.56	18.56	18.33	18.33	25.03	25.03
AIR	4.55	4.55	2.33	2.33	4.64	4.64	6.81	6.81
CAPACITA	40.19	40.19	43.99	43.99	46.51	46.51	47.66	47.66
CHANNEL2	183.05	183.05	148.84	148.84	140.98	140.98	94.1	94.1
DODUC	26.63	26.63	36.59	36.59	23.35	23.35	153.25	153.25
FATIGUE2	152.48	152.48	205.38	205.38	124.21	124.21	129.15	129.15
GAS_DYN2	132.75	132.75	57.08	57.08	148.8	148.8	134.18	134.18
INDUCT2	61.53	61.53	125.91	125.91	84.44	84.44	407.92	407.92
LINPK	9.41	9.41	15.72	15.72	9	9	9.64	9.64
MDBX	13.7	13.7	13.64	13.64	10.07	10.07	10.42	10.42
MP_PROP_MX	141.77	141.77	25.04	25.04	98.91	98.91	21.61	21.61
NF	13.12	13.12	11.5	11.5	12.14	12.14	13.04	13.04
PROTEIN	36.87	36.87	38.38	38.38	34.52	34.52	34.91	34.91
RNFLOW	23.89	23.89	20.06	20.06	24.5	24.5	26.95	26.95
TEST_FPU2	110.91	110.91	119.52	119.52	112.15	112.15	112.76	112.76
TFFT	157.02	157.02	202.87	202.87	144.97	144.97	171.32	171.32
<b>Geometric Mean</b>	<b>37.77</b>	<b>37.77</b>	<b>34.64</b>	<b>34.64</b>	<b>36.05</b>	<b>36.05</b>	<b>42.22</b>	<b>42.22</b>

**Absoft auto-parallel code is 18% FASTER than Intel auto-parallel on AMD!**

### Absoft Pro Fortran suites are available for Windows, Linux and Mac OS

**Green** cells are performance figures within 10% of fastest, **Red** cells are more than 150% of fastest.

**Compilers:** \*Absoft Pro Fortran 2013: -m64 -05(parallel) -speed\_math=10 -mvax -march=core -xINTEGER, -m64 -04 -speed\_math=10 -mvax -march=core -xINTEGER

\*Intel Fortran 2013.0.79: -03 -fast -parallel -ipo -no-prec-div, -03 -fast -ipo -no-prec-div

**AMD hardware:** AMD Piledriver (Opteron 6278), CPU Family 21 (2x32), 1.4GHz, 2MB Cache, 64GB Memory; Red Hat 6.3

**Times:** Each time represents an average of at least 10 runs: one option set per total run – no tuning for individual tests

Test run by Absoft Corporation, Nov 2012 using Polyhedron suggested options for Absoft and Intel compilers.

Reprinted with permission of © Polyhedron Ltd. UK <http://www.polyhedron.com> Trademarks to respective holders.