

ColdFire Compiler Benchmark



1. Wind River (DIAB) C/C++ Compiler V5.2.1

Verwendete Compiler Optionen

None	Keine Optimierungsoptionen
Optimized	Option -O
Fully optimized	Options: -Xshort-a5-relative -Xshort-pc-relative -Xhardware-divide -Xstrings-in-text=0 -Xinline=0 -Xargs-in-reg
Size optimized	Options: -Xsize-opt -Xshort-a5-relative -Xshort-pc-relative -Xhardware-divide -Xstrings-in-text=0 -Xinline=0 -Xargs-in-reg

WIND RIVER



2. Metrowerks CodeWarrior Development Studio V4.0.1 & V5.0

Verwendete Compiler Optionen im Settings Dialog der IDE

None	Optimizations Off
Optimized	Optimization Level 2 / Optimized For Faster Execution Speed
Fully optimized	Optimization Level 4 / Optimized For Faster Execution Speed
Size optimized	Optimization Level 4 / Optimized For Smaller Code Size



Benchmark Code:

Dhrystone 2.1 ,Applikationsbeispiel von Freescale Semiconductor (Drystone Mips = Dhrystones_Per_Second / 1540)
http://uat.freescale.com/files/netcomm/software/app_software/code_examples/5249DHRYS.zip

Architektur / Environment

Freescale Evalboard M5249C3 mit Coldfire MCF5249 bei 132 MHz CPU Frequenz
 Kein RTOS, Benchmark läuft im externen SDRAM
 Controller Initialisierung über identischen Startupcode, Zeitmessung mit dem integrierten Timer
 Verwendeter Debugger & Emulator (in beiden Fällen) visionCLICK 8 / Wind Winver ICE



1. Dhrystone-Performance: Cache aus, Stack im externen SDRAM

Optimization	Wind River 5.21	CodeWarrior 4.01	CodeWarrior 5.0
None	7629 DryStone/sec	3364 DryStone/sec	3360 DryStone/sec
Optimized	8745 DryStone/sec	5025 DryStone/sec	4946 DryStone/sec
Fully Optimized	10020 DryStone/sec	5092 DryStone/sec	5045 DryStone/sec
Size Optimized	9960 DryStone/sec	4899 DryStone/sec	4841 DryStone/sec

2. Dhrystone-Performance: Cache ein, Stack im internen SRAM

Optimization	Wind River	CodeWarrior 4.01	CodeWarrior 5.0
None	45841 DryStone/sec	24263 DryStone/sec	23797 DryStone/sec
Optimized	49503 DryStone/sec	30000 DryStone/sec	28125 DryStone/sec
Fully Optimized	52657 DryStone/sec	30186 DryStone/sec	28254 DryStone/sec
Size Optimized	55882 DryStone/sec	29462 DryStone/sec	28448 DryStone/sec

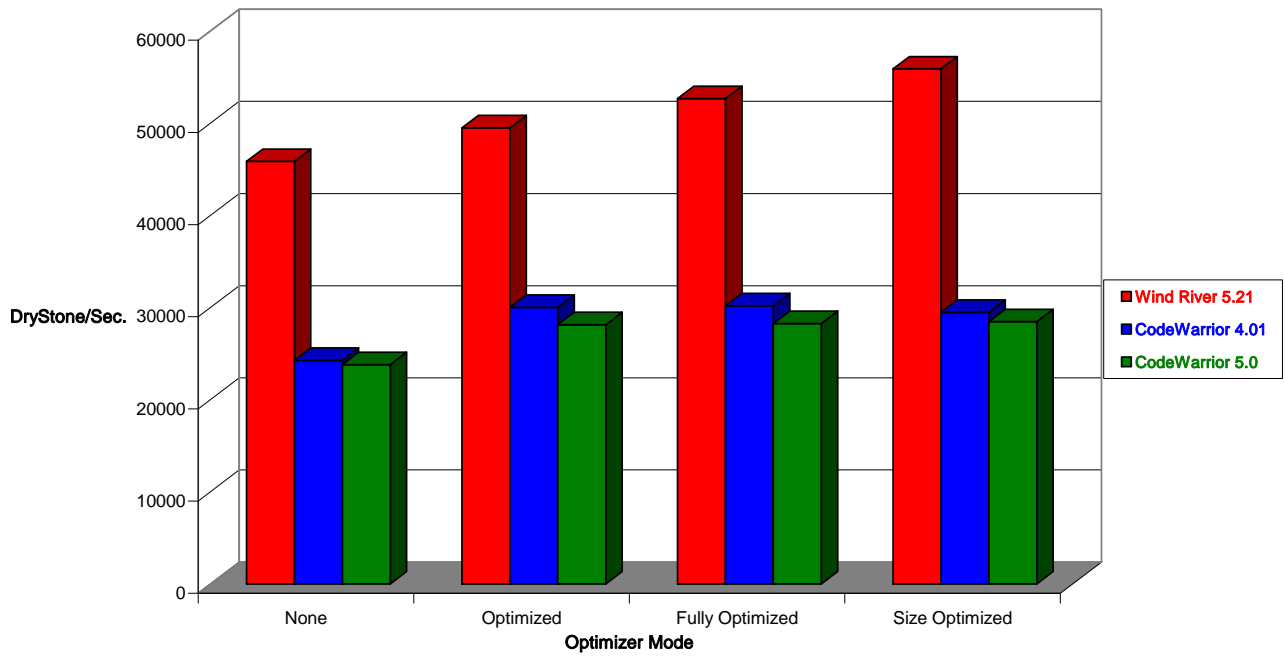
3. Dhrystone-Code Size

Optimization		Wind River	CodeWarrior 4.01	CodeWarrior 5.0
None	App. / Lib.	6976 / 1232	9180 / 11913	9292 / 4561
Optimized	App. / Lib.	6572 / 964	7704 / 11917	7904 / 4565
Fully Optimized	App./ Lib.	4600 / 964	7732 / 11913	7920 / 4565
Size Optimized	App. / Lib.	4540 / 964	7676 / 11913	7864 / 4565





DhryStone 2.1 Compiler Benchmark mit MCF5249 (Cache On)



DhryStone 2.1 Compiler Benchmark mit MCF5249 (Code Size)

