GNU Toolchain Home

About this project

Development of GNU Toolchain:

- GCC compiler
  - We improve Link-Time Optimizations (LTO), SVE auto-vectorization optimizations, and microarchitecture-specific optimizations for popular Arm cores.
  - We improve performance and scalability of Libgomp (GNU OpenMP runtime)
  - We support compiler sanitizers (ASAN, TSAN, etc.) in GCC. Sanitizers are developed under LLVM Toolchain project, and sanitizer changes are then merged into GCC to have both LLVM and GNU toolchains provide sanitizer features.
- GDB debugger
  - We develop support for new ARMv8.x architectural features and improve debugging experience.
- Glibc C Library
  - We implement both target-specific and generic optimizations in Glibc. We then aim to propagate all relevant Glibc improvements to Newlib and Bionic C libraries.
- GNU Binutils assembler, BFD and Gold linkers
  - In Binutils we implement ELF section-level optimizations, as well as workarounds for hardware errata.

Meetings

No Linaro specific calls, disussion is upstream

Get Involved

- Most discussion is on the upstream lists
- Join the gnu-dev ML (archive)
- Contact maxim.kuvyrkov@linaro.org

The following items are on the project backlog but not currently planned. If you are interested in contributing to any of these items, please state your intention on the project's mailing list (found above)

Key	Summary	T	Assignee	Status	Resolution
GNU-693	Monitor GNU Toolchain CI (2021.Q2-2021.Q3)		Maxim Kuvyrkov	TODO	Unresolved
GNU-692	Regressions from tcwg_binutils/tcwg_cross/tcwg_gnu CI		Maxim Kuvyrkov	IN PROGRESS	Unresolved
GNU-690	Fix regressions in Ubuntu's ARM64 LTO Build		Maxim Kuvyrkov	TODO	Unresolved
GNU-689	Code-speed regressions from tcwg_bmk-gnu CI		Maxim Kuvyrkov	IN PROGRESS	Unresolved
GNU-688	GNU Toolchain code-speed regression detection (2021.Q2-2021.Q3)		Maxim Kuvyrkov	TODO	Unresolved
GNU-687	GNU Toolchain code-size regression detection (2021.Q2-2021.Q3)		Maxim Kuvyrkov	TODO	Unresolved
GNU-686	Code-size regressions from tcwg_bmk-gnu CI		Maxim Kuvyrkov	IN PROGRESS	Unresolved
GNU-684	Track building Linux kernel with GNU Toolchain (2021.Q2-2021.Q3)		Maxim Kuvyrkov	TODO	Unresolved
GNU-681	Linux regressions from tcwg_kernel-gnu CI		Maxim Kuvyrkov	IN PROGRESS	Unresolved
GNU-680	GNU Toolchain regressions from tcwg_kernel-gnu CI		Maxim Kuvyrkov	IN PROGRESS	Unresolved
GNU-676	MVE auto-vectorization improvements		Christophe Lyon	IN PROGRESS	Unresolved
GNU-669	Enable tracking the number of vectorized loops		Prathamesh Kulkarni	IN PROGRESS	Unresolved

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