

New frontiers in CTF linking: type deduplication

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Last year we introduced support for the Compact C Type Format (CTF) to the GNU toolchain and presented at the last Cauldron.

Back then, the binutils side was only doing slow, non-deduplicating linking and format dumping, but things have moved on. The libctf library and ld in binutils has gained the ability to properly deduplicate CTF: output CTF in linked ELF objects is now often smaller than the CTF in any input object file. The performance hit of deduplication is usually in the noise or at least no more than a second or two (and there are still some easy performance wins to pick).

The libctf API has also improved somewhat, with support for a number of missing features, improved error reporting, and a much-improved way to iterate over things in the CTF world.

This talk will provide an overview of the novel type deduplication algorithm used to reduce the size of CTF, with occasional diversions into the API improvements where necessary, and (inevitably) discussion of upcoming work in the area, solicitations of advice from others working on similar things, etc.

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I agree

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