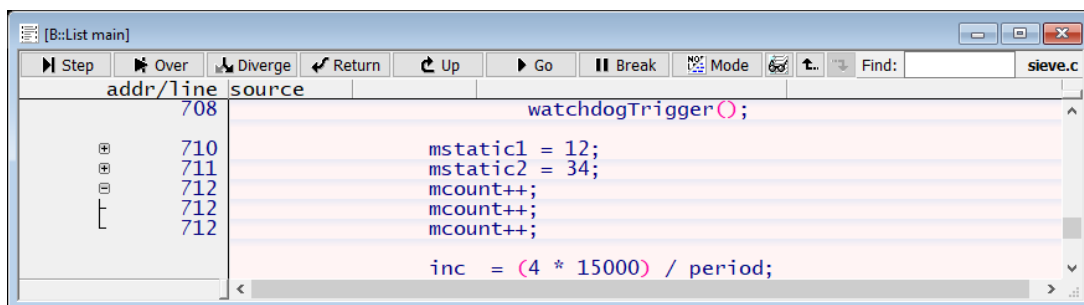


When debugging optimized code, single stepping is jumping back and forth in an unexpected order.

2022-01-05 - Comments (0) - TRACE32 PowerView

When stepping through optimized code, TRACE32 sometimes seems not to execute the step correctly, the program counter (PC) remains at the same source code line for multiple steps or is jumping back and forth in an unexpected order. The **List** window usually shows a drill-down box (a + sign) next to some line numbers.



The screenshot shows the TRACE32 List window for a file named 'sieve.c'. The window title is '[B::List main]'. The toolbar includes buttons for Step, Over, Diverge, Return, Up, Go, Break, Mode, and Find. The main area displays source code with the following lines:

addr/line	source
708	watchdogTrigger();
710	mstatic1 = 12;
711	mstatic2 = 34;
712	mcount++;
712	mcount++;
712	mcount++;
	inc = (4 * 15000) / period;

The line numbers 710, 711, and 712 are grouped together with a drill-down box (a + sign) next to 712, indicating that the code has been optimized into a basic block.

This is a result of the compiler settings and compiler output. As a workaround, summarize adjacent blocks of assembler code when loading an application, e.g. with

Data.LOAD.Elf my_application.elf /SingleLineAdjacent

Please refer also to the video [Debugging Optimized Code in TRACE32](#)