Instruction Trace

Driving Innovations™

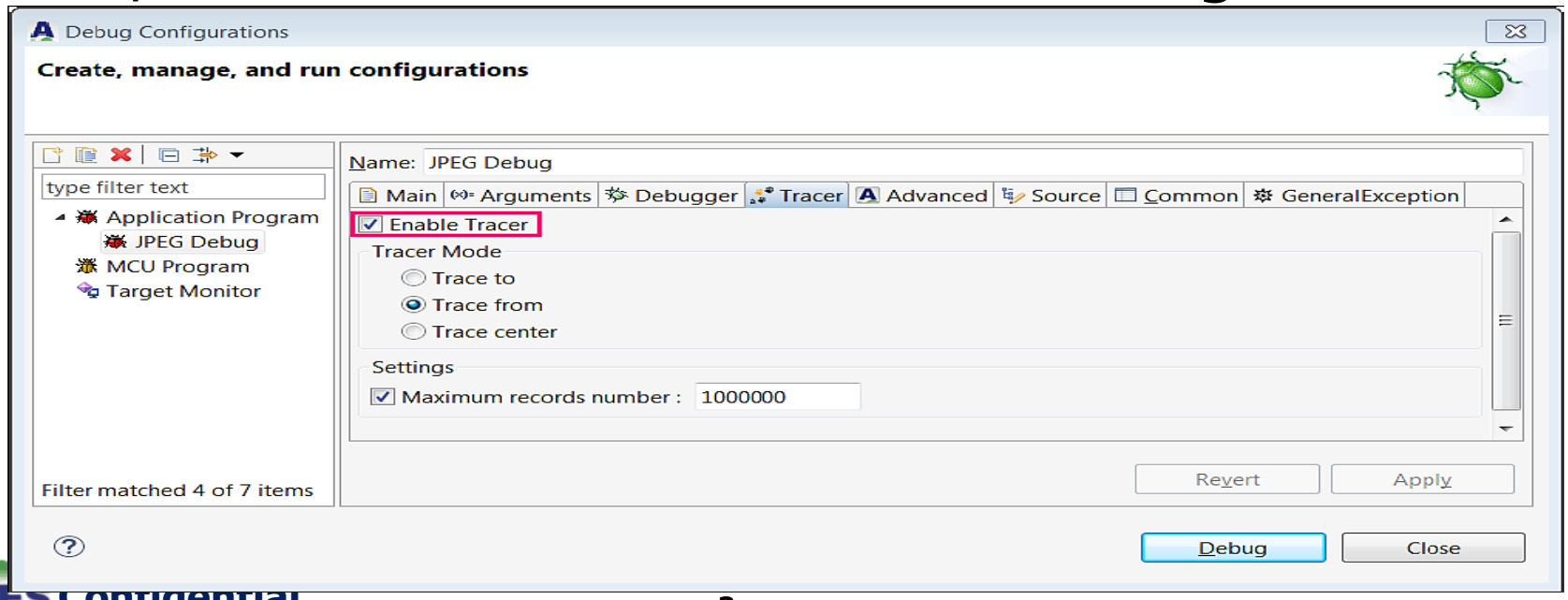
Connection

- Here by inspecting the sequence of executed instructions captured in the trace buffer, we can track down the causes of program problems.
- For Andes ICE targets that support the trace feature, they must be connected with an AICE2-T to capture the trace information.

CONNECTION:

Implementation

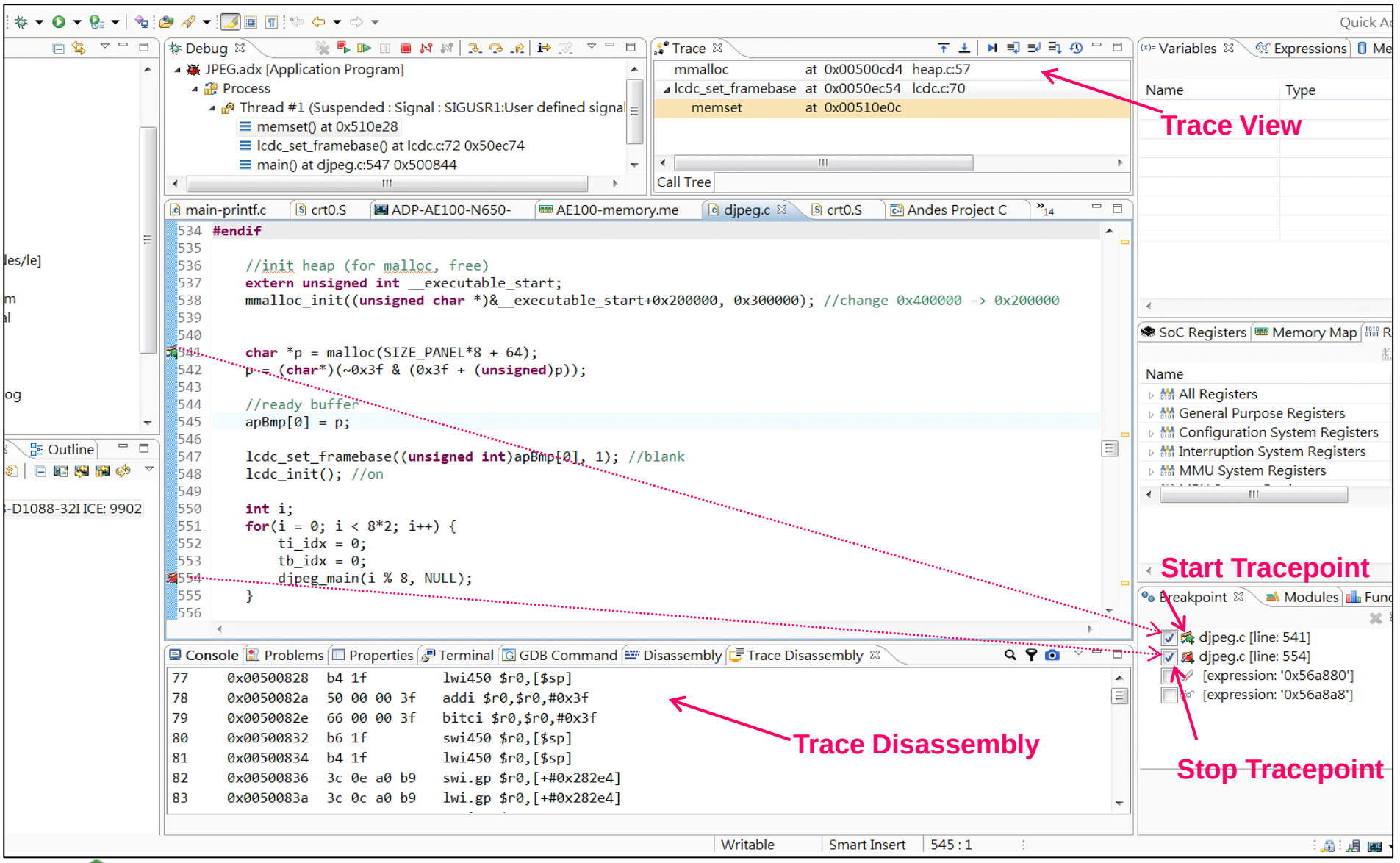
- Go to AndeSight™ window to create and build a project.
- Right click on project> Debug Configurations and create a new launch session.
- Under the tracer tab, check enable tracer, specify the mode, maximum record count and debug.



Result (1)

- Open a desired source file in code editor and insert start and stop trace point in the ruler by right click pull down menu.
- Click resume and as project hits stop trace point or trace buffer is full a dialog will notify that trace information is being generated.
- Two views i.e trace view and trace disassembly view will evoke automatically.
- Trace view captures the instructions address and sources and here it provides a trace control interface for user to inspect captured instructions.
- Trace disassembly view shows information of each instruction captured in buffer with order of execution, address in memory, operation code and associated assembler code.

Result (2)


Debug
JPEG.adx [Application Program]
Process
Thread #1 (Suspended : Signal : SIGUSR1:User defined signal
memset() at 0x510e28
lcdc_set_framebase() at lcdc.c:72 0x50ec74
main() at djpeg.c:547 0x500844
Trace
mmalloc at 0x00500cd4 heap.c:57
lcdc_set_framebase at 0x0050ec54 lcdc.c:70
memset at 0x00510e0c
Call Tree
Variables
Expressions
Name
Type
Trace View
main-printf.c
crt0.S
ADP-AE100-N650-
AE100-memory.me
djpeg.c
crt0.S
Andes Project C
534 #endif
535
536 //init heap (for malloc, free)
537 extern unsigned int __executable_start;
538 mmalloc_init((unsigned char *)&__executable_start+0x200000, 0x300000); //change 0x400000 -> 0x200000
539
540
541 char *p = malloc(SIZE_PANEL*8 + 64);
542 p = (char*)(~0x3f & (0x3f + (unsigned)p));
543
544 //ready buffer
545 apBmp[0] = p;
546
547 lcdc_set_framebase((unsigned int)apBmp[0], 1); //blank
548 lcdc_init(); //on
549
550 int i;
551 for(i = 0; i < 8*2; i++) {
552 ti_idx = 0;
553 tb_idx = 0;
554 djpeg_main(i % 8, NULL);
555 }
556
SoC Registers
Memory Map
Name
All Registers
General Purpose Registers
Configuration System Registers
Interruption System Registers
MMU System Registers
Start Tracepoint
Breakpoint
Modules
djpeg.c [line: 541]
djpeg.c [line: 554]
[expression: '0x56a880']
[expression: '0x56a8a8']
Stop Tracepoint
Console
Problems
Properties
Terminal
GDB Command
Disassembly
Trace Disassembly
77 0x00500828 b4 1f lwi450 $r0,[$sp]
78 0x0050082a 50 00 00 3f addi $r0,$r0,#0x3f
79 0x0050082e 66 00 00 3f bitci $r0,$r0,#0x3f
80 0x00500832 b6 1f swi450 $r0,[$sp]
81 0x00500834 b4 1f lwi450 $r0,[$sp]
82 0x00500836 3c 0e a0 b9 swi.gp $r0,[+#0x282e4]
83 0x0050083a 3c 0c a0 b9 lwi.gp $r0,[+#0x282e4]
Trace Disassembly
Outline
-D1088-32I ICE: 9902
Writable
Smart Insert
545 : 1