How to disassemble a program using xobjdump

version 1.1.1

scope Example. This code is provided as example code for a user to base

their code on.

description How to disassemble a program using xobjdump

boards Unless otherwise specified, this example runs on the SliceKIT Core

Board, but can easily be run on any XMOS device by using a different

XN file.

The xTIMEcomposer tools contain the *xobjdump* utility, which you can use to disassemble a given executable. For example, compile the following code:

```
#include <print.h>
int main() {
  printstr("Hello World!\n");
  return 0;
}
```

From the command line, the resulting executable can be disassembled as follows:

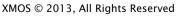
```
xobjdump -d a.xe
```

This will produce the following output:

```
<main>:
               0x000100ac: 44 77:
0x000100ae: 4e 68:
                                              entsp (u6)
                                                                0 x 4
                                             ldc (ru6)
                                                                r1, 0xe
               0x000100b0: 00 f0 05 60: ldaw (lru6)
                                                                 r0, dp[0x5]
                                                                  0x4d <printstr>
               0x000100b4: 00 f0 4d d0: bl (lu10)
               0x000100b8: 40 68: ldc (ru6)
                                                                  r1, 0x0
               0x000100ba: 42 54: stw (ru6)
0x000100bc: 01 54: stw (ru6)
0x000100bc: 02 5c: ldw (ru6)
0x000100c0: c4 77: retsp (u6)
                                                                  r1, sp[0x2]
                                              stw (ru6)
                                                                  r0, sp[0x1]
                                             ldw (ru6)
                                                                  r0, sp[0x2]
                                              retsp (u6)
                                                                  0 x 4
```

You can use xobjdump to intermix the source lines with the disassembly output. This is enabled via the -S command line option:

```
xobjdump -S a.xe
```



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This will produce the following output:

```
int main() {
                  0x000100ac: 44 77:
0x000100ae: 4e 68:
                                                      entsp (u6)
                                                                             0 x 4
                                                     ldc (ru6)
                                                                            r1, 0xe
  printstr("Hello World!\n");
                  0x000100b0: 00 f0 05 60: ldaw (lru6)
                                                                            r0, dp[0x5]
                  0x000100b4: 00 f0 4d d0: bl (lu10)
                                                                             0x4d <printstr>
                  0x000100b8: 40 68:
                                                     ldc (ru6)
                                                                            r1, 0x0
  return 0;
                  0x000100ba: 42 54: stw (ru6)
                                                                            r1, sp[0x2]

      0x000100bc:
      01 54:
      stw (ru6)

      0x000100be:
      02 5c:
      ldw (ru6)

      0x000100c0:
      c4 77:
      retsp (u6)

                                                                            r0, sp[0x1]
                                                                            r0, sp[0x2]
                                                                            0 x 4
```



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