INDUSTRIAL CONTROL COMMUNICATIONS, INC.

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MIF-47 Development Kit

Install Development Kit

Requirements:

- Linux development computer (Ubuntu 18.04 recommended)

Download the development kit from the MIF-47 web page:

http://www.iccdesigns.com/custom-solutions/74-mif-47.html

Run the installer script. The default install location is "/usr/local/mif47-devkit-x86_64/"; however, this can be changed during installation.

Using Cross-Compiler

Simple Example

The gcc cross-compiler can be called directly to compile a simple C file. The cross-compiler must be called with the following options for the executable to be able to be run on the MIF-47: "`-march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard`".

Command Line Example:

```
$ /usr/local/mif47-devkit-x86_64/sysroots/x86_64-irissdk-linux/usr/bin/arm-irisos-linux-gnueabi/arm-irisos-linux-gnueabi-gcc -march=armv7-a -mthumb -mfpu=neon  -mfloat-abi=hard example.c -o example
```

Makefile Example

The Makefile can take advantage of the make variables that are provided by the SDK. The environment must be sourced before the Makefile can take advantage of the make variables.

Source the environment in the terminal:

```
$ source /usr/local/mif47-devkit-x86_64/environment-setup-armv7at2hf-neon-irisos-linux-gnueabi
```

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Makefile Example:

```
example: example.c
	$(CC) example.c -o example
```

TRDP Example

The TRDP project uses its own variables to achieve cross-compiling. This means the make variables for calling gcc provided by the development kit cannot be used directly.

The environment needs to be sourced before calling make for the TRDP project.

```
$ source /usr/local/mif47-devkit-x86_64/environment-setup-armv7at2hf-neon-irisos-linux-gnueabi
```

The following lines need to be added to the board config file:

- TCPATH =
- TCPREFIX = arm-irisos-linux-gnueabi-
- CFLAGS += -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard --sysroot=$(SDKTARGETSYSROOT)