# FreeRTOS compile system

Marcus Jansson

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## 1 Summary

Compiling a common FreeRTOS kernel for both AVR32 and PC simulator (GNU/Linux) is done from command line by a single command, 'make'. The produced binaries are found in the bin/ directory.

## 2 Introduction

This is a short documentation of the FreeRTOS compile system for GNU/Linux. The FreeRTOS compile system was made for the convenience of using a common FreeRTOS kernel and being able to compile FreeRTOS for AVR32 and PC simulator simultaneously or individually.

# 3 Compiling FreeRTOS

Compiling FreeRTOS is done from command line by utilizing the GNU 'make' command.

## 3.1 Example run

This is the output from a run of the compile system:

```
~freertos$ make
Making FreeRTOS for AVR32 and EVK1100
.....................Done.

Making FreeRTOS for PC
........Done.
```

After compiling the produced binaries are found in the bin/ directory:

## 3.2 File description:

This is a description of the files in the bin/ directory.

| FILE | DESCRIPTION |
|---|---|
| freertos_avr32.bin | the file which can be used to program the EVK1100 from command line. |
| freertos_avr32.elf | the file which can be used to program the EVK1100 from AVR32 Studio. |
| freertos_sim | the PC executable FreeRTOS simulator. |

# 4 Make options

## 4.1 General options

Make can be run with the following general options:

| COMMAND | DESCRIPTION |
|---|---|
| make | Compile both AVR32 and PC simulator binaries. |
| make clean | Clean all AVR32 and PC simulator binaries and object files. |
| make V=1 | Verbose output, good for debugging. |
| make V=2 | The V=1 flag can be added to any of the make options.<br>There are two levels of verbosity, V=1 and V=2 |

## 4.2 AVR32 specific options

Make can be run with the following AVR32 specific options:

| COMMAND | DESCRIPTION |
|---|---|
| make avr32 | Only compile the AVR32 binaries |
| make program | Program the AVR32 binary to the EVK1100. |
| make avr32clean | Clean the AVR32 specific binaries and object files. |

## 4.3 Simulator specific options

Make can be run with the following PC simulator specific options:

| COMMAND | DESCRIPTION |
|---|---|
| make sim | Compile the PC simulator binary. |
| make run | Run the PC simulator. |
| make simclean | Clean the PC simulator binary and object files. |