

## How to install GNU tool for H8S/2212

### 1. Introduction

This document describes the procedures for installing GNU tool used to compile micro T-Kernel for H8S/2212. You can create micro T-Kernel that can run on the board equipped with H8S/2212, by building micro T-Kernel reference code distributed from T-Engine Forum with this tool.

### 2. Notes

We only assume that this GNU tool is used to create micro T-Kernel that can run on the board equipped with H8S/2212. The usage of this tool for other intended purposes is not assumed. T-Engine Forum does not support this tool.

### 3. Installation Procedures

#### 3.1 Install Cygwin<sup>(TM)</sup>

This GNU tool runs on Cygwin<sup>(TM)</sup> which is UNIX emulator on Windows<sup>(®)</sup>. Please refer to Cygwin Web page (<http://www.cygwin.com/>) to install Cygwin. Select make (in Devel category) together, in addition to the package for installation which is selected by default. After installation, start Cygwin and create a symbolic link to `/usr/bin/perl` in `/usr/local/bin` as follows.

```
$ ln -s /usr/bin/perl /usr/local/bin/perl
```

## 3.2 Install GNU tool

### Notes:

If files already exist under `/usr/local/h8300-elf-4.1` directory, please take actions such as changing the directory name beforehand to prevent overwriting files by mistake due to the installation of this tool.

### (1) Install GNU tool

Copy the archive file (`devenv_h8300-elf-4.1.tgz`) downloaded from Web page to `/usr/local` directory, and then extract it as follows. As a result, GNU tool is installed under `/usr/local/h8300-elf-4.1` directory.

```
$ cd /usr/local
$ tar xzf devenv_h8300-elf-4.1.tgz
```

### (2) Configure environment variables

Define the following environment variables in accordance with the environment to be used after installing GNU tool.

BD	Base directory of development environment Set the directory in which development environment was installed. Example) <code>/usr/local/te/utkernel_source</code>
GNUs	GNU-related tool Specify the directory in which GNU make exists. Specify <code>/usr</code> if make exists in <code>/usr/bin</code> .
GNU_BD	Base directory of GNU-related tool for cross development Example) <code>/usr/local/h8300-elf-4.1</code>
GNUh8300	Directory of GNU-related tool for H8S/2212 Example) <code>\$GNU_BD/h8300-elf</code>
GCC_EXEC_PREFIX	gcc-related directory Set the directory of GNU-related tool for H8S/2212 included in development environment. Set <code>\$GNU_BD/lib/gcc</code> normally.

As for the subsequent procedures, please refer to “micro T-Kernel Source Code Manual” (`utkernel_en.txt`) on micro T-Kernel source code download page.

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