

Programming Embedded Systems 20102/ JB

Exercise 5 / 16-17.2.2012 / Deadline for submitting report 2.3.2012

Return report electronically on address: <https://xprog28.cs.abo.fi/ro.nsf>. If you do not have an ÅA account, please email report to jerker.bjorkqvist@abo.fi

Advisor/labs: Åke Syysloiste. Åke will be available during lab hours, at other times he can be found in room A5031.

Equipment and tools

Equipment used: Buffalo WHR-HP-G52-2 Wireless router

SDK: Ubuntu Linux 9.10 in a VirtualBox environment

Task

Cross compile the open source OpenWRT firmware for the Buffalo WHR-HP-G54-2 wireless router. Show that the router works by connecting it to the network and modify the settings using the web interface.

Guidelines

- Load the VirtualBox image from the lab network server (L:\PES\UbuntuOpenWrt.vdi)
- Set up the VirtualBox to use the Virtual Image, start the VirtualBox (virtualbox is installed in the Lab PC:s)
- Follow the instructions on the page
 - <http://kamikaze.openwrt.org/docs/openwrt.html#x1-400002.1>

NOTE! There are some challenges with installing the new firmware; In order to install software, TFTP (Tiny FTP) has to be used in order to upload the new firmware to the router. Note

- bootloader (CFE, Common Firmware Environment by Broadcom) used default IP address **192.168.11.1**
- The OpenWRT uses default IP address **192.168.1.1**

You must configure the Virtualbox to use Bridged adapter, in order to be able to connect to the openwrt router from the Linux system.

General rules for documenting projects:

Each report should include:

- Title
- Name
- Date / timeframe when exercise performed
- Group (if not done individually)
- Assumptions on knowledge of the reader
- Own contribution (if performed in group)
- Description of the task / exercise
- Description of the equipment used
- Description of performed work
- Achieved results