

Intel Galileo - Support #618

Build a Yocto Linux Image for Intel Galileo on Ubuntu 12.04

05/08/2015 03:39 PM - Daniel Curtis

Status:	Closed	Start date:	05/08/2015
Priority:	Normal	Due date:	
Assignee:	Daniel Curtis	% Done:	100%
Category:	Image Compiling	Estimated time:	10.00 hours
Target version:	Ubuntu	Spent time:	10.50 hours

Description

This is a guide for creating a Yocto linux image on an Ubuntu 12.04 derivative.

Prepare the Environment

- Make sure the system is up to date:

```
sudo apt-get update && sudo apt-get upgrade
```

- Install a few prerequisite packages:

```
sudo apt-get install gawk wget git bitbake diffstat unzip texinfo gcc-multilib build-essential  
chrpath socat libstd1.2-dev xterm parted
```

Download the Source Code

- Create a directory for the source code:

```
mkdir ~/git && cd ~/git
```

- Get the latest IoT Yocto Development Kit:

```
git clone -b devkit-daisy git://git.yoctoproject.org/meta-intel-iot-devkit iotdk  
cd iotdk
```

- Source the iot-devkit-init-build-env script:

```
source iot-devkit-init-build-env
```

Build the Yocto Image

- Run bitbake to build iot-devkit-image:

```
bitbake iot-devkit-image
```

- **NOTE:** There are many types of image targets for bitbake to use, such as:

1. **iot-devkit-image:** A fully functional image to be placed on an SD card
2. **iot-devkit-prof-dev-image:** A fully functional image to be placed on an SD card with full profiling and dev tools
3. **iot-devkit-prof-image:** A fully functional image to be placed on an SD card with full profiling
4. **iot-devkit-spi-image:** A small image capable of fitting into the on-board SPI flash

- Fix the grub bitbake source:

```
nano ~/git/iotdk/meta-quark-bsp/recipes-bsp/grub/grub_0.97.bb
```

- And the SRC_URI to the following:

```
SRC_URI = "git://github.com/intel-iot-devkit/grub-fedora.git"
```

- (Optional) To use the Hob GUI to assist in building, run:

```
bitbake -u hob
```

Deploy the Yocto Image

- Use wic to create a bootable micro SD image:

```
~/git/iotdk/scripts/wic create -e iot-devkit-image ~/git/iotdk/scripts/lib/image/canned-wks/iot-devkit.wks
```

- Write the image using dd:

```
sudo dd if=/var/tmp/wic/build/iot-devkit-201506161028-mmcb1kp0.direct of=/dev/mmcb1k0 bs=1M  
sudo sync
```

NOTE: Make sure to update the timestamp for the image in /var/tmp/wic/build/

Connect Over Ethernet

- Once the micro SD card is inserted into the Galileo, plug a network cable to a network with DHCP and look for the host named "quark". Log in as root:

```
ssh root@quark
```

- **NOTE:** Make sure to set a root password:

```
passwd
```

Resources

- <https://software.intel.com/en-us/blogs/2015/03/04/creating-a-yocto-image-for-the-intel-galileo-board-using-split-layers>
- <http://www.yoctoproject.org/docs/1.7.1/mega-manual/mega-manual.html>
- <http://www.yoctoproject.org/docs/1.7.1/bsp-guide/bsp-guide.html>
- <http://www.yoctoproject.org/docs/1.7.1/bitbake-user-manual/bitbake-user-manual.html>
- <http://wiki.ros.org/IntelGalileo/HydroGalileoInitialInstall>
- <http://www.malinov.com/Home/sergey-s-blog/intelgalileo-buildinglinuximage>
- <https://www.yoctoproject.org/downloads>
- <http://layers.openembedded.org/layerindex/branch/master/layer/meta-intel-iot-devkit/>

Related issues:

Copied to Intel Galileo - Support #632: Build a Yocto Linux Image for Intel G...

Closed

05/08/2015

History

#1 - 05/08/2015 03:40 PM - Daniel Curtis

- Description updated

#2 - 05/15/2015 11:44 AM - Daniel Curtis

- Description updated

- Status changed from New to In Progress

- % Done changed from 0 to 30

#3 - 05/15/2015 11:57 AM - Daniel Curtis

- Description updated

#4 - 05/15/2015 12:09 PM - Daniel Curtis

- Description updated

#5 - 05/15/2015 12:24 PM - Daniel Curtis

- Description updated

- % Done changed from 30 to 50

#6 - 05/15/2015 01:59 PM - Daniel Curtis

- Description updated

#7 - 05/15/2015 02:56 PM - Daniel Curtis

- Description updated

#8 - 06/05/2015 11:39 AM - Daniel Curtis

- Description updated

#9 - 06/12/2015 12:04 PM - Daniel Curtis

- Description updated

#10 - 06/12/2015 01:10 PM - Daniel Curtis

- Description updated

- % Done changed from 50 to 70

#11 - 06/12/2015 02:33 PM - Daniel Curtis

- Description updated

#12 - 06/15/2015 12:43 PM - Daniel Curtis

- Description updated

#13 - 06/15/2015 03:15 PM - Daniel Curtis

- Description updated

#14 - 06/16/2015 10:10 AM - Daniel Curtis

- Description updated

- % Done changed from 70 to 80

#15 - 06/16/2015 10:31 AM - Daniel Curtis

- Description updated

- % Done changed from 80 to 90

#16 - 06/16/2015 10:42 AM - Daniel Curtis

- Description updated

#17 - 06/16/2015 11:20 AM - Daniel Curtis

- Description updated

- % Done changed from 90 to 100

#18 - 06/19/2015 12:48 PM - Daniel Curtis

- Description updated

- Status changed from In Progress to Resolved

#19 - 06/19/2015 02:27 PM - Daniel Curtis

- Description updated

#20 - 06/19/2015 02:28 PM - Daniel Curtis

- Description updated

#21 - 06/19/2015 03:03 PM - Daniel Curtis

- Description updated

#22 - 06/24/2015 05:51 PM - Daniel Curtis

- Description updated

#23 - 06/25/2015 11:30 AM - Daniel Curtis

- Description updated

#24 - 06/25/2015 01:25 PM - Daniel Curtis

- Subject changed from Build a Yocto Linux Image for Intel Galileo on Ubuntu to Build a Yocto Linux Image for Intel Galileo on Ubuntu 12.04

#25 - 06/25/2015 01:43 PM - Daniel Curtis

- Copied to Support #632: Build a Yocto Linux Image for Intel Galileo on Ubuntu 14.04 added

#26 - 07/13/2015 01:54 PM - Daniel Curtis

- Status changed from Resolved to Closed