FOTONIC

FZ-INTERNAL-SDK

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1. Introduction to FZ-INTERNAL-SDK

This document describes the FZ-INTERNAL-SDK used to develop applications running embedded in Fotonic cameras.

The SDK package consists of a GCC cross compiler toolchain for ARM, Eclipse IDE and source code for a sample application together with API headers and libraries.

1.1 Embedded development

The camera is running Linaro Linux Distribution. To develop embedded application a host computer running Linux or Windows must be used.

2. INSTALLATION

Start by extracting the SDK package.

Then follow `arm_instr.txt`.

3. System configuration

3.1 General

When the camera is started it has its root file system mounted at a ram disk. The Camera also has two flash partitions. One is used for Fotonic Camera specific configuration and one is used as storage for embedded application development.

The storage for embedded applications are mounted as `/fotonic/apps/` and contains two folders.

`/fotonic/apps/bin` folder contains the ClientApplication binary and this is where additional binaries should be placed.

`/fotonic/apps/etc` folder contains a startup script for the ClientApplication binary.

`/fotonic/svc` is mounted as read only.

The camera services needed to produce X,Y,Z and Brightness images are configured to run on core 2 while other applications like ClientApplication and user applications should be configured to run on core 1.

3.2 Starting Applications

When the Camera is started the client startup script is called after the system services are started. It's located in `/fotonic/apps/etc/init.sh`. This script will start the default ClientApplication but can be changed to start other applications. All applications started from this script should be started with "taskset 1" to force them to run on core 1.

3.3 Services

The camera has two network services enabled. Both are needed to run external debug sessions.

- SFTP to transfer files to and from the camera.

  Login: username ‘root’ and empty password.

- SSH to get a console to the camera

  Login: username ‘root’ and empty password.