Ittiam

AAC Decoder

Build Procedure Document

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Ittiam Systems (P) Ltd,
The Consulate, 1 Richmond Road,
Bangalore 560 025, India

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Contents

1.   Building the Sample Application

1.1   Introduction

The document mentions the following details:

- Pre-requisites for the build: This section contains all the pre-requisites for building the test application like the files required etc.
- Usage Instructions: A step by step process of how to build and run the test application

1.2   Pre-requisites for the build

1.2.1   Files Required

1.2.1.1   Build tools configuration files

- `\Makefile.prod`
- `\packages-production\user.bld`
- `\packages-production\config.bld`

1.2.1.2   Algorithm library

`(\packages-production\ittiam\codecs\aac_dec)`
- `lib_production\aac_dec_prod.a`

1.2.1.3   Codec package building files

`(\packages-production\ittiam\codecs\aac_dec)`
- `ce\AAC_DEC.xdc`
- `ce\AAC_DEC.xs`
- `ce\package.bld`
- `ce\package.xdc`
- `ce\package.xs`
- `AAC_DEC.xdc`
- `link.xdt`
- `package.bld`

- package.xdc
- package.xs

1.2.1.4   Hardware resource library

`(\packages-production\ittiam\codecs\aac_dec\ce)`
- `lib\resource.a470MV`

1.2.1.5   ARM application build files

`(\packages-production\ittiam\app\aac_dec_app)`
- `aac_dec_app.cfg`
- `package.bld`
- `package.xdc`
- `aac_dec_app.x470MV` (application executable obtained after building)

1.2.1.6   ARM application include files

`(\packages-production\ittiam\app\aac_dec_app)`
- `enhaacpdec_ittiam.h`
- `ienhaacpdec.h`
- `ia_error_handler.h`
- `ia_error_standards.h`
- `ia_type_def.h`

1.2.1.7   ARM application source files

`(\packages-production\ittiam\app\aac_dec_app)`
- `ceapp.c`
- `app.c`
- `ia_aac_dec_error_handler.c`

1.2.1.8   Binary files and executables

`(\packages-production\ittiam\app\aac_dec_app\test)`
- `loadmodules.sh` (script to initialize kernel modules)
- `aac_dec_params.txt` (input config file for the app)
- `aac_dec_app.x470MV` (Pre-built application, this will be updated when the package is built)

1.3   Usage Instructions

To build and run the application, follow the given steps:

1. Set the path variables in the file `Makefile.prod`. You need to change the paths of `CE_INSTALL_DIR`, `XDC_INSTALL_DIR`, `XDCPATH` appropriately. In case the directory `'(CE_INSTALL_DIR)/cetools/packages'` does not exist in your CE installation package, then you should also include the paths of xdais, framework components and cmem in `XDCPATH`.

2. Set the right ARM code generation tools path in `user.bld`

3. Set the right ARM compiler tool chain path in `user.bld`

4. Set the target platform in `user.bld`

5. Clean the workspace before building, using the command below

   `make -f Makefile.prod clean`

6. Build the workspace using the command below

   `make -f Makefile.prod all`

   This command will build codec and the application

7. Running the executable

   a. Copy the 'test' folder (containing `aac_dec_app.x470MV`, `loadmodules.sh`, `aac_dec_params.txt`, `*.adts`) under `packages-production/ittiam/app/aac_dec_app` into your working folder on the target device's file system

   b. Go to test/ directory.

   c. Run the `./loadmodules.sh` on command line for cmem kernel module.

   d. The sample application runs using a parameter file called `aac_dec_params.txt` using which the input and output test-vector list is provided. The details to configure `aac_dec_params.txt` are provided in [1].

   e. Run `./aac_dec_app.x470MV` on command line. The output created can be compared for bit-exactness with reference output `*_ref.wav`.

8. There is a compilation switch `ARM_PROFILE` in `packages-production/ittiam/app/aac_dec_app/app.c` to enable or disable profiling of the component's process call.

9. There is a compilation switch `USE_ITTIAM_ERROR_CODE` in `packages-production/ittiam/app/aac_dec_app/app.c` to enable or disable the usage of include files `ia_error_handler.h`, `ia_error_standards.h` and `ia_type_def.h`

2. References

[1]   Getting started Guide