

5. VPS scaling example

5. VPS scaling example

1. Preparation
2. Running method
3. Result

1. Preparation

This example implements the video scaling function based on the video processing module `VPS`, and users can preview the screen on the display.

Environment preparation:

- Connect the development board and the monitor via an HDMI cable
- Power on the development board and log in via the command line
- Prepare images (NV12) and video files (H264) as input

2. Running method

The sample code is provided in source code form and needs to be compiled and run using the `make` command.

The steps are as follows.

```
sunrise@ubuntu:~$ cd /app/cdev_demo/vps
sunrise@ubuntu:/app/cdev_demo/vps$ sudo make
sunrise@ubuntu:/app/cdev_demo/vps$ sudo ./vps -m 1 -i test.h264 -o yuv_1.yuv --
iheight 1080 --iwidth 1920 --oheight 720 --owidth 1280
```

Parameter configuration:

- -i: file path to be operated
- -iheight: input height
- -iwidth: input width
- -m: input mode, 1: video stream; 2: NV12 image
- -o: output path
- -oheight: output height
- -width: output width
- -skip: (optional) for video stream input, skip the number of frames at the beginning

3. Result

```

sunrise@ubuntu:/app/cdev_demo/rtsp2display$ cd /app/cdev_demo/vps
sunrise@ubuntu:/app/cdev_demo/vps$ cp /app/cdev_demo/vio2encoder/test.h264 .
sunrise@ubuntu:/app/cdev_demo/vps$ cp /app/cdev_demo/vio_capture/yuv_1.yuv
cp: missing destination file operand after '/app/cdev_demo/vio_capture/yuv_1.yuv'
Try 'cp --help' for more information.
sunrise@ubuntu:/app/cdev_demo/vps$ cp /app/cdev_demo/vio_capture/yuv_1.yuv .
sunrise@ubuntu:/app/cdev_demo/vps$ ls
Makefile test.h264 vps.c yuv_1.yuv
sunrise@ubuntu:/app/cdev_demo/vps$ sudo make
cc -o /app/cdev_demo/vps/vps.o -c /app/cdev_demo/vps/vps.c
cc -03 -o vps /app/cdev_demo/vps/vps.o -lspcdev
sunrise@ubuntu:/app/cdev_demo/vps$

```

The following command copies the `test.h264` file saved in [3. Camera image encoding] to the current directory for use.

```
cp /app/cdev_demo/vio2encoder/test.h264 .
```

The following command copies the `yuv_1.yuv` file saved in [2. Save camera image to the current directory] for use.

```
cp /app/cdev_demo/vio_capture/yuv_1.yuv .
```

After the program runs correctly, the processed image file `outpu.yuv` will be saved in the current directory.

The running log is as follows.

```

sunrise@ubuntu:/app/cdev_demo/vps$ sudo ./vps -m 1 -i test.h264 -o yuv_1.yuv --i
height 1080 --iwidth 1920 --oheight 720 --owidth 1280
2024/05/27 15:38:30.681 !INFO [x3_av_open_stream][0380]probesize: 5000000
Setting VPS channel-2: src_w:1920, src_h:1080; dst_w:1280, dst_h:720;
hb_vp_deinit success
sunrise@ubuntu:/app/cdev_demo/vps$

```

```

sunrise@ubuntu:/app/cdev_demo/vps$ sudo ./vps -m 1 -i test.h264 -o yuv_1.yuv --
iheight 1080 --iwidth 1920 --oheight 720 --ow
idth 1280
[x3_av_open_stream]:[380]:probesize: 5000000
hb_vp_deinit success

```