Document Number: IMX6L31428101RN
Rev. 0, 05/2015

i.MX 6 Yocto Project L3.14.28_1.0.1 Patch Release Notes

1 Release Purpose

The purpose of this patch release is to provide updates and fixes to the L3.14.28_1.0.0 GA release. The L3.14.28_1.0.1 patch release, changes the following components:

- Graphics: 5.0.11.p4.5

This release supports the following i.MX 6 boards:

- i.MX 6 Quad/DualLite/Solo SABRE-SD
- i.MX 6 Quad/DualLite/Solo SABRE-Auto
- i.MX 6 SoloLite EVK
- i.MX 6 SoloX SABRE-SD
- i.MX 6 SoloX SABRE-Auto

This release was only tested on i.MX 6Quad SABRE-SD and i.MX 6SoloX SABRE-SD platforms.

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2 Graphics Patch Descriptions

The following table provides the patch descriptions for this release for graphics.

Table 1. Patch descriptions

Component	Description
Graphics	• MGS-554 [#1644] Fix the false alert with GPU commit dirty • MGS-528 [#ccc] Wayland does not free window memory until the application exits • GRPH-56 [#ccc] Add environment variable to turn off memory fill • GRPH-55 [ccc] Add alpha channel for direct texture viv extension • MA-6540 [#1672] Fix native fence FD leak found by Android™ CTS • MGS-663 [#1686] P4 release can't be built statically • MA-6527 [#1666] Fix android.webgl.cts.WebGLTest CTS failure • MGS-511-2 [#1593] Qt 3D app cannot run on i.MX 6SoloX board • MGS-658 [#ccc] Fix build warning of isInApiTraceMode for static link • Revert MGS-352 [#1453] Creating context on 5.x is slower than 4.x due to process name read • MGS-578 [#1657] GoogleEarth APK encounters a shader compile error • MGS-507 [#1323] RenderToTexture has distorted pictures on screen in DL board • MGS-547 [#ccc] Add YVYU format test in g2d_overlay_test • MGS-547 [#1640] YVYU format gets wrong result when 2D is built • MGS-564 [#ccc] Resolve race condition in display frame sync • MGS-367 [#1589] "CTRL+C" to close the "tutorial7_es20" causes GPU to hang • MGS-543 [#1604] Remove some unsupported extensions in gles10 • MGS-436 [#ccc] Memory leak in glimagesink video loop playback • MA-6267 [#1600] Fix ES3.0 benchmark UBenchEnhanced can't run • MA-6208-1 [#1543] Fix build error • MA-6208 [#1543] Fix com.drawelements.deqp.gles3 CTS failure • MGS-511 [#1593] Qt 3D app cannot run on i.MX 6SoloX board • MGS-512 [#1493] Fix es30 conformance failures related to glReadPixels • MGS-502 [#ccc] libCLC failure • MGS-500 [#ccc] Disable apitrace for static build • MGS-554 [##1644] Fix the false alert with GPU commit dirty

3 Installation and Build Instructions

This section describes how to install the patch release.

For host setup and Yocto Project setup instructions, see the *Freescale Yocto Project User's Guide* (IMXLXYOCTOUG).

3.1 Installing Yocto Project layers

To set up the manifest and download the Yocto Project layers, use the following commands:

```
mkdir yocto_3.14.28-1.0.1
cd yocto_3.14.28-1.0.1
repo init -u git://git.freescale.com/imx/fsl-arm-yocto-bsp.git -b imx-3.14.28-1.0.1_patch
repo sync
```

3.2 Choosing a machine

This release supports the following machines. Choose the machine configuration that matches your reference board.

- imx6qsabresd
- imx6qsabreauto
- imx6dlsabresd
- imx6dlsabreauto
- imx6solosabresd
- imx6solosabreauto
- imx6slevk
- imx6sxsabresd
- imx6sxsabreauto

Set the machine configuration in `MACHINE=<name from list above>` in the following section.

3.3 Choosing a graphical back end

Before the setup, choose a graphical back end. The default is X11.

Choose one of the following graphical back ends:

- X11
- Wayland: using the Weston compositor
- DirectFB
- FrameBuffer

Specify a machine configuration for each graphical back end. Examples for each back end are:

- For X11:

```
MACHINE=imx6qsabresd source fsl-setup-release.sh -b build-x11 -e x11
```

- For Weston on Wayland:

```
MACHINE=imx6dlsabreauto source fsl-setup-release.sh -b build-wayland -e wayland
```

- For DirectFB:

```
MACHINE=imx6slevk source fsl-setup-release.sh -b build-dfb -e dfb
```

- For FrameBuffer:

```
MACHINE=imx6solosabresd source fsl-setup-release.sh -b build-fb -e fb
```

The fsl-setup-release script installs the meta-fsl-bsp-release layer and configures the DISTRO_FEATURES required for choosing the graphical back end. The –b parameter specifies a build directory target. In this build directory, a conf directory is created from setup that contains the local.conf file, where MACHINE and DISTRO_FEATURES are set. The meta-fsl-bsp-release layer is added into the bblayer.conf file in the conf directory under the build directory specified by the –e parameter.

3.4 Choosing an image target

Choose an image target to build. The following are image examples:

- core-image-minimal: builds minimal kernel and U-Boot
- fsl-image-gui: builds a non-Qt 5 image for X11, Frame Buffer, DirectFB, and Wayland graphical backends.
- fsl-image-qt5: builds a Qt 5 image for X11, Frame Buffer, and Wayland graphical backends.

This release does not support integration of features from later releases and is released on top of the Daisy Yocto Project release.

3.5 Building an image target

```
bitbake <image>
```

Examples:

- For building a non Qt 5 image:

  ```
  bitbake fsl-image-gui
  ```

- For building a Qt 5 image for X11, Frame Buffer, and Wayland graphical backends:

  ```
  bitbake fsl-image-qt5
  ```

To initialize the build environment when the session exits, run the following command in the directory above the build directory:

```
setup-environment <build directory>
```

Appendix A References

- For details on setting up the Host and Yocto Project, see the *Freescale Yocto Project User's Guide* (IMXLXYOCTOUG).
- For details on boot switch settings, see "How to boot the i.MX boards" in the *i.MX Linux® User's Guide* (IMXLUG).
- For information on downloading images using U-Boot, see "Downloading images using U-Boot" in the *i.MX Linux® User's Guide* (IMXLUG).
- For information on setting up an SD/MMC card, see "Preparing an SD/MMC card to boot" in the *i.MX Linux® User's Guide* (IMXLUG).

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