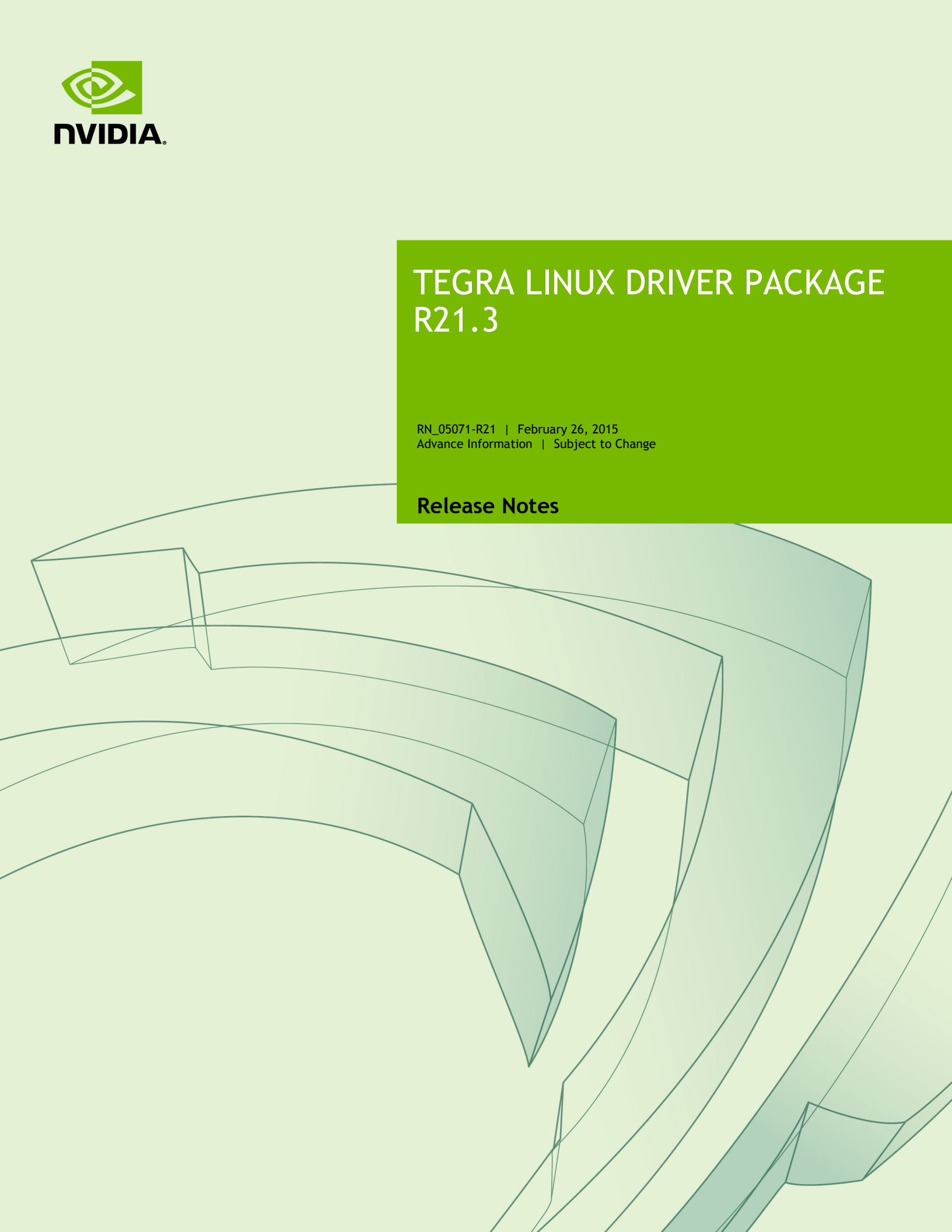

TEGRA LINUX DRIVER PACKAGE R21.3

RN_05071-R21 | February 26, 2015
Advance Information | Subject to Change

Release Notes

TABLE OF CONTENTS

1.0 ABOUT THIS RELEASE 3
1.1 Login Credentials 3
1.2 What's New 3
1.3 Top Issues Fixed Since Last Release 4
1.4 Jetson TK1-Specific Releases 5
1.5 Sources for Included Linux Distribution Packages 5

2.0 KNOWN ISSUES 6
2.1 [1458105] RTSP stream playback unsuccessful 6
2.2 [200046014] X crashes due to segmentation fault 6
2.3 [200080783] X crashes during xrandr scaling 6
2.4 [200036737] X crashes due to invalid event 6
2.5 [200074271] Segmentation fault occurs when switching to video mode in nvgstcapture-1.0 7
2.6 [200080781] Mode setting unsuccessful for some refresh rates 7
2.7 [200081242] System does not wake from Suspend (LP1) 7
2.8 [200081682] Data CRC errors displayed when using specific SD Cards for file system 7
2.9 [200081729] Errors display when overriding GPU frequency before display initialization 7
2.10 [200049185] Hue changes if object is close to camera lens 7
2.11 [200071832] Loop functionality of nvgstplayer-1.0 does not function correctly 8
2.12 [200074125] built-in sound devices not listed in Settings with HDMI-DVI convertor connected 8
2.13 [200081502] MSELECT error and kernel exception display during reboot stress testing 8
2.14 [1499936] Moving nautilus window over workspace switcher causes GUI to hang 8

3.0 IMPLEMENTATION NOTES 9
3.1 Gstreamer 1.0 Support 9

1.0 ABOUT THIS RELEASE

The NVIDIA® Tegra® Linux Driver Package supports development of platforms running:

- NVIDIA® Tegra® K1 32 Bit series computer-on-a-chip
- Linux kernel 3.10.40
- Git tag for the release: tegra-l4t-r21.3

> **Note: This release of Tegra Linux Driver Package R21.3 is a release for: Tegra K1 32 Bit device code-named "Jetson TK1"**

1.1 LOGIN CREDENTIALS

The default Jetson TK1 login credentials are:

- Username: `ubuntu`
- Password: `ubuntu`

> **Note: A debug console is available via female-to-female NULL modem cable. The console is not password protected.**

1.2 WHAT'S NEW

This release fixes some issues that were found during continued testing and adds/enhances the following feature(s).

- Implemented skip-frames and disable-dpb properties for gst-omx plugin. See *L4T Multimedia User Guide* for more information.
- Added encoding and scaling support in gst-nvvidconv-1.0. See *L4T Multimedia User Guide* for more information.
- Tegra watchdog support

- Enabled ramoops debugging support
- CSI_B/CSI_C support in Tegra V4L2/soc_camera driver

1.3 TOP ISSUES FIXED SINCE LAST RELEASE

The following issues have been resolved in this release.

System

- [1506870] Unnecessary debug messages from NVAVP kernel code display
- [1549799] Improved flashing tools compatibility with additional eMMC devices where boot partition size differ from Jetson TK 1
- [1561360] Intermittent "azx_get_response" kernel warning displays during system testing
- [1582388] Intermittent “kernel_warning: "hda-intel azx_get_response timeout" warning displays during system testing
- [200015967] The error “gk20a gk20a.0: gk20a_fifo_handle_sched_error: fifo is waiting for ctx switch for 100 ms,ch = 3” may occur when running WebGL applications
- [200054390] Support RAM sizes for 4GB or greater in U-Boot
- [1551864] Updated pinmux for Jetson TK 1 devices
- [200046876] Resolved memory leak in gst-openmax
- [200067410] Resolved issues related to use of Tegra-profiler
- [200072946] Improved system stability during extended reboot stress testing
- [200020671, 200031813] Improved compatibility with HDMI TVs and resiliency for unsupported modes
- [1577947, 1435870] Improved stability of gk20a GPU driver
- [200048667] Removed debug messages when loading VIC firmware
- [200055546] Resolved gk20a stability issues regarding “gk20a_pmu_isr: pmu halt intr not implemented”
- [200016313] Resolved gk20a stability issues regarding “gk20a_pmu_enable_elpg(): possible elpg refcnt mismatch“
- [1557711] Enabled devsleep functionality only for mSATA connectors (disable devsleep on Jetson TK 1 SATA). This resolved issues on detection of certain SATA drives
- [1566598] Improved stability of Jetson TK1 on-board Ethernet

Camera

- [200074274] Resolved preview resolution switching with USB cameras in Nvgstcapture-1.0
- [200063275] Fixed issue with 1080p encoding in Nvgstcapture-0.10
- [200060263] Corrected preview resolution in Nvgstcapture-0.10
- [200062376] Changed default preview sink in Nvgstcapture-1.0
- [200049907] Resolved pauses during video recording specific to USB webcam in Nvgstcapture-0.10

- [200074237] Resolved cosmetic error messages when using USB cameras in Nvgstcapture-1.0

Multimedia

- [200053327] Resolved errors in continuous encoding and decoding in libjpeg-8b hardware acceleration
- [200067781] Fixed crash in port audio
- [200045113] Improved H.264 decode latency
- [1575862, 1576116] Resolved crash in H.264 decoder when video stream contains multiple segments with different resolutions.
- [200057071] Resolved infrequent error of "X Error of failed request: BadIDChoice" in Nvgstplayer

Power and Performance

- [200070160] 792 megahertz (Mhz) BCT needs to be updated has incorrect memory swizzle

1.4 JETSON TK1-SPECIFIC RELEASES

For the latest releases and errata for the Jetson TK1 platform, visit (Registered Developer Program membership required):

```
http://developer.nvidia.com/jetson-tk1
```

1.5 SOURCES FOR INCLUDED LINUX DISTRIBUTION PACKAGES

Source files for open-source licensed Linux distribution packages included in the release flashed on Jetson TK 1 as shipped are located in the following directory:

```
./usr/src/
```

You can download updated sources, when available at the following Web site:

```
https://developer.nvidia.com/linux-tegra
```

2.0 KNOWN ISSUES

This section provides details about issues that were discovered during development and QA but not resolved prior to this release of the Tegra Linux Driver Package.

2.1 [1458105] RTSP STREAM PLAYBACK UNSUCCESSFUL

Playing certain RTSP streams with Gstreamer-1.0 sometimes plays audio content only, and sometimes does not play back any content at all. This is an issue with the Gstreamer software.

2.2 [200046014] X CRASHES DUE TO SEGMENTATION FAULT

The X server crashes due to a segmentation fault during the rendercheck test suite.

2.3 [200080783] X CRASHES DURING XRANDR SCALING

The X server crashes during 4 x 8 xrandr scaling, displaying log messages indicating out-of-memory process.

2.4 [200036737] X CRASHES DUE TO INVALID EVENT

When hot-plugging certain peripherals, occasional crashes in X11 have been reported.

2.5 [200074271] SEGMENTATION FAULT OCCURS WHEN SWITCHING TO VIDEO MODE IN NVGSTCAPTURE-1.0

When using Nvgstcapture-1.0 with nvhdmioverlaysink and nveglglessink, image capture is successful but switching to video causes intermittent segmentation faults.

2.6 [200080781] MODE SETTING UNSUCCESSFUL FOR SOME REFRESH RATES

Mode settings for non-standard modes are unsuccessful for some refresh rates. Logs include "tegra_dc_init failure" and "pclk out of range" messages.

2.7 [200081242] SYSTEM DOES NOT WAKE FROM SUSPEND (LP1)

The system does not wake from Suspend (LP1) using USB interrupts with XUSB enabled.

2.8 [200081682] DATA CRC ERRORS DISPLAYED WHEN USING SPECIFIC SD CARDS FOR FILE SYSTEM

Data CRC errors may display when using an “Ultra microSDHC UHS-I 32GB Class 10 Memory Card” for the root file system.

2.9 [200081729] ERRORS DISPLAY WHEN OVERRIDING GPU FREQUENCY BEFORE DISPLAY INITIALIZATION

The GPU frequency cannot be overridden until X11 is running.

2.10 [200049185] HUE CHANGES IF OBJECT IS CLOSE TO CAMERA LENS

When capturing images with Nvgstcapture-1.0 the hue of the image varies with the proximity of the subject to the camera lens.

2.11 [200071832] LOOP FUNCTIONALITY OF NVGSTPLAYER-1.0 DOES NOT FUNCTION CORRECTLY

When playing back video content using the loop-forever feature of Nvgstplayer-1.0, playback hangs after first iteration, stopping at the first frame of the second iteration.

2.12 [200074125] BUILT-IN SOUND DEVICES NOT LISTED IN SETTINGS WITH HDMI-DVI CONVERTOR CONNECTED

Sound is audible, but built-in sound devices are missing from settings when system is connected to a display with a HDMI-DVI converter.

2.13 [200081502] MSELECT ERROR AND KERNEL EXCEPTION DISPLAY DURING REBOOT STRESS TESTING

MSELECT errors and kernel exception are displayed at `/dvs/git/dirty/git-master_linux/kernel/drivers/platform/tegra/hier_ictlr/hier_ictlr.c:54` during reboot stress testing. This issue occurs extremely infrequently.

2.14 [1499936] MOVING NAUTILUS WINDOW OVER WORKSPACE SWITCHER CAUSES GUI TO HANG

Dragging a Nautilus window so that it covers or partially covers the workspace switcher causes the desktop GUI to hang.

3.0 IMPLEMENTATION NOTES

3.1 GSTREAMER 1.0 SUPPORT

This release includes Gstreamer 1.0 support. The Nvgstplayer application defaults to Gstreamer 0.1. To run the 1.0 version, use the full path to the binary.

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