

## FreeNAS - Feature #30663

### Add graphics/drm-next-kmod to system

03/24/2018 05:54 AM - Alexander Petrov

<b>Status:</b> Done	<b>Estimated time:</b> 0.00 hour
<b>Priority:</b> Nice to have	
<b>Assignee:</b> Ryan Moeller	
<b>Category:</b> Console	
<b>Target version:</b> 11.2-BETA3	
<b>Severity:</b> Low	<b>Needs Merging:</b> No
<b>Reason for Closing:</b>	<b>Needs Automation:</b> No
<b>Reason for Blocked:</b>	<b>Support Suite Ticket:</b> n/a
<b>Needs QA:</b> No	<b>Hardware Configuration:</b>
<b>Needs Doc:</b> No	
<b>Description</b> Please, add i915.ko i915kms.ko for support UTF-8 fonts in vt console on intel-graphics powered MB's	
<b>Related issues:</b> Related to FreeNAS - Feature #28541: vesa/vga doesn't seem to be compiled or ... <b>Closed</b> Related to FreeNAS - Feature #33399: Quicksync/nvenc <b>Closed</b>	

#### Associated revisions

##### Revision 52fe66b8 - 07/19/2018 01:29 PM - Ryan Moeller

Add graphics/drm-next-kmod to system ports build

These are not loaded by default, but are included for testing.

Ticket: #30663

##### Revision 4e6598a2 - 07/19/2018 01:32 PM - Ryan Moeller

Add graphics/drm-next-kmod to system ports build

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#### History

##### #1 - 03/24/2018 05:56 AM - Alexander Petrov

- Target version set to 11.1-U2

##### #2 - 03/24/2018 06:57 AM - Dru Lavigne

- Assignee changed from Release Council to Alexander Motin

- Target version changed from 11.1-U2 to 11.2-RC2

**#3 - 03/26/2018 04:11 PM - Alexander Motin**

- Status changed from *Unscreened* to *Not Started*
- Priority changed from *No priority* to *Nice to have*
- Severity set to *Low*

I can not say that I completely trust reliability of kms drivers towards new hardware, etc. Doesn't vt\_vga or vt\_efib can attach to the video on that system to make it somebody else's problem?

**#4 - 03/27/2018 12:00 AM - Alexander Petrov**

Alexander Motin wrote:

I can not say that I completely trust reliability of kms drivers towards new hardware, etc. Doesn't vt\_vga or vt\_efib can attach to the video on that system to make it somebody else's problem?

in vt\_vga (640x480) fonts completely unreadable due to video scaling problem. My case requires native 800x600 resolution for pixel-in-pixel vga output (7" POS video-terminal).

vt\_efib is unreachable because installation (aged five years) was performed in BOIS-mode (not EFI or UEFI).

If I right understand the situation, an Intel driver (i915\*) - the only way to switch onto different videomode

**#5 - 06/12/2018 01:29 PM - Alexander Motin**

- Related to Feature #28541: *vesa/vga doesn't seem to be compiled or provided, making vidcontrol unusable? (needed to sort out console font) added*

**#6 - 07/17/2018 11:11 AM - Dru Lavigne**

- Target version changed from *11.2-RC2* to *11.2-BETA3*

**#7 - 07/18/2018 07:58 PM - Alexander Motin**

- Status changed from *Not Started* to *Unscreened*
- Assignee changed from *Alexander Motin* to *Ryan Moeller*

Ryan, could you investigate this please: what would it cost us to have those modules (graphics/drm-next-kmod port) and what would it give (flexible mode setting, etc). We may just include the modules for experiment into 11.2 and leave deeper integration for later. Or just bump it all later, if it won't just fly.

**#8 - 07/19/2018 08:23 AM - Alexander Motin**

- Target version changed from *11.2-BETA3* to *Backlog*

Thinking again, pushing it backward. We have too many much serious things to think about console fonts now.

**#9 - 07/19/2018 11:33 AM - Ryan Moeller**

- Status changed from *Unscreened* to *Screened*

I will add the graphics/drm-next-kmod port to the build for now as an experimental feature.

**#10 - 07/19/2018 01:33 PM - Ryan Moeller**

- Status changed from Screened to In Progress

**#11 - 07/24/2018 11:46 AM - Ryan Moeller**

I have experimented a little bit with i915kms.

The module can be loaded from the command line. When the module loads, I get a message "Failed to add WC MTRR for [<some address range>]: -22; performance may suffer" and it is not clear if this means overall system performance or just graphics performance. Trying to unload it resulted in a panic. Specifying `i915kms_load="YES"` in `loader.conf` loads the module at boot without further issue beyond those just described.

My console switched to a higher resolution with a clean looking font when the module loaded. I viewed a UTF-8 test file, which was missing plenty of glyphs and is probably the same font that the VGA console uses (at least they both appear to be missing the same glyphs in the test file). There is not much of a selection of preinstalled fonts that can be used by vidcontrol, and I didn't immediately find an easy path for creating new console fonts from TTF or OTF fonts, so I haven't yet seen the driver improve the support for UTF-8 fonts apart from making the existing ones look better (not to understate the enhancement to readability).

**#12 - 07/24/2018 11:54 AM - Ryan Moeller**

- File `suffering.jpg` added

- File `utf8top.jpg` added

- File `utf8bottom.jpg` added

**#13 - 08/02/2018 01:15 PM - Ryan Moeller**

- Status changed from In Progress to Ready for Testing

- Target version changed from Backlog to 11.2-BETA3

PR: <https://github.com/freenas/build/pull/89>

**Testing**

`/boot/modules/` should contain the requested `i915.ko` and `i915kms.ko` modules (among others). They should not be automatically loaded.

**#14 - 08/02/2018 02:29 PM - Ryan Moeller**

- Needs Merging changed from Yes to No

**#15 - 08/03/2018 06:33 AM - Dru Lavigne**

- Subject changed from Add missing kernel modules to Add graphics/drm-next-kmod to system

**#16 - 08/14/2018 07:32 AM - Aaron St. John**

- File `Screenshot_2018-08-14 FreeNAS - megamini tn ixsystems com.png` added

Tested on FreeNAS-11.2-MASTER-201808140859

See attached screenshot.

Test procedure:

I viewed the contents of `/boot/modules`.

I didn't see, specifically, "i915.ko". I don't know much about this, but perhaps this is the desired result? Marking as blocked until it's verified.

**#17 - 08/14/2018 07:32 AM - Aaron St. John**

- Status changed from Ready for Testing to Blocked

**#18 - 08/14/2018 10:08 AM - Ryan Moeller**

Thanks for catching that, I expected i915.ko would be provided by drm-next-kmod, but it turns out to be in the base OS and we don't currently build it.

I've learned that i915.ko provides better support for legacy AGP hardware, and i915kms supports newer hardware. I'm not sure we need to include both.

If there are no objections, I'm inclined to leave i915.ko out.

**#19 - 08/16/2018 11:28 AM - Dru Lavigne**

- Status changed from Blocked to Passed Testing

- Needs QA changed from Yes to No

**#20 - 08/22/2018 07:30 AM - Kris Moore**

- Related to Feature #33399: Quicksync/nvenc added

**#21 - 09/07/2018 08:30 AM - Dru Lavigne**

- Status changed from Passed Testing to Done

- Needs Doc changed from Yes to No

New UI Guide commit: <https://github.com/freenas/freenas-docs/commit/0050166ee90e57272bb14c9080dedd38a1f9172f>

Legacy UI Guide commit: <https://github.com/freenas/freenas-docs/commit/c7a3c786e2bc77c51770f7896fb769ad7a072e88>

**Files**

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suffering.jpg	676 KB	07/24/2018	Ryan Moeller
utf8top.jpg	581 KB	07/24/2018	Ryan Moeller
utf8bottom.jpg	624 KB	07/24/2018	Ryan Moeller
Screenshot_2018-08-14 FreeNAS - megamini tn ixsystems com.png	9.67 KB	08/14/2018	Aaron St. John