

Intel: HEVC, ANV Vulkan Driver, Linux 5.7 and New Security Hole

By *Roy Schestowitz*

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- [Intel Adds VA-API Acceleration For HEVC REXT To FFmpeg](#) [3]

Intel open-source developers have contributed support for VA-API acceleration of HEVC REXT "Range Extensions" content with the widely-used FFmpeg library.

HEVC Range Extensions are extensions to H.265 geared for areas of content distribution, medical imaging, still imaging, and more. Among the changes with HEVC REXT are supporting 4:2:2 and 4:4:4 chroma sampling formats. HEVC Range Extensions are laid out in much more detail in this IEEE.org paper.

- [Intel Boosts Gen7 GPU Vulkan Compute Performance By ~330% For Geekbench](#) [4]

Intel's open-source "ANV" Vulkan driver for Linux doesn't see much attention for pre-Broadwell hardware but today it saw a big improvement for Vulkan compute on aging Gen7 Ivybridge/Haswell era hardware.

Jason Ekstrand, the lead developer of the Intel ANV Vulkan driver, discovered that in their driver's pipeline code the data cache functionality would end up being disabled when a shader was pulled out of the pipeline cache. For Broadwell/Gen8+ the data cache bit was being ignored but this oversight ended up having huge implications for Gen7 Intel graphics hardware

(Ivybridge/Haswell) as the oldest supported by Intel's Vulkan driver.



[Intel Has Accumulated 400+ Graphics Driver Patches So Far For Linux 5.7](#)[5]

Intel just sent out their initial pull request of new feature changes/improvements to DRM-Next that in turn is for landing in about one month's time when the Linux 5.7 merge window kicks off. With taking longer than usual to send in their first round of feature updates, this first of several pull requests already amounts to over 400 patches.

While it is a big pull request given the extra time for patches to accumulate, there aren't too many user-facing changes. Though there is a lot of enablement work for Tiger Lake as well as continuing Gen11 Ice Lake and Elkhart Lake work. For Ice Lake / Elkhart Lake there are a number of driver workarounds added. For Gen12 / Tiger Lake there are workarounds, display fixes, RPS is re-enabled, and other work.



[Intel KVM Virtualization Hit By Vulnerability Over Unfinished Code](#)[6]

At least not another hardware vulnerability, but CVE-2020-2732 appears to stem from unfinished code within the Intel VMX code for the Linux kernel's Kernel-based Virtual Machine (KVM) support.

CVE-2020-2732 as of writing isn't yet public but we've been closely monitoring it since seeing a peculiar patch series earlier today and not finding much information on it.

[Linux Hardware](#)

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[3] https://www.phoronix.com/scan.php?page=news_item&px=FFmpeg-VA-API-HEVC-REXT

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