? ???????? ?????? ??????? ?????????? ?????? ?????? ????? ?????????? ????????? ????????????? ?????? ?????????? ????????

March 3, 2020

Vulkan (???. ???????) – ????????????????? API ??? 2D- ?? 3D-???????, ??????? ???????????? ?????? ?????? ????? ?????????? Khronos Group ? ????????? ???????? GDC 201512.
Vulkan API ????????? ????? ???????? ??? «????? ?????? OpenGL» ??? ?????? «glNext», ?? ????? ?????? ????? ????????? ? ???? ???????? ?? ?????? ??????????? Vulkan3. ? ???? ????? OpenGL, Vulkan ????????? ? ?????? ????????????????? ????????? ? ??????????? ??????? ?????? ?????????? ? 3D-????????, ????? (???) ????? ???? ???? ????????? ????? ?? ???? ????????, ?? ???????? ?????????? ?????? ??????? ????????????? ?? ????????? ?????? ? ??????????, ????????? Direct3D 12, Metalen ?? Mantle. Vulkan ?????? ?? ?????????? AMD ?? Mantle45678.
??????? Vulkan ??????? ??????? ???? API, ????????? ??? ??????????????? OpenGL, ? ???? ????????? ????????? ??????, ????????? ??????? ??????? ???????? ???? GPU ?? ????????? ???????? ? CPU. Vulkan ????? ????????????? ???????????:

????? ??? ???????? ??????
? ????????? ????????? ?????????? ? Vulkan ? 2018 ???? AMD ????????? ?????????????? ???? V-EZ, ????? ????? ? ???? ?????? ????????? ??????? ??? ???????????, ??? ??? ??????? ??????????? ????? ?????????? ? ?????? ????????? ?????? Vulkan API1112.
????? 2014 ???? Khronos Group ???????? ????????? ????? ???????? ??????????? ?????? ????????? API. ? 2014 ????? ?? SIGGRAPH ????????? ????? ???????? ??????? ? ??????? ? ????.
????????? ????????? ??? ????? ???????? ?? ???????? ????????, ??????? ?????? «Vulkan» ????? ??????? 19 ??????? 2015 ????13.
Vulkan ????? ???????? ??????? ?? ?????????? ?? Game Developers Conference 2015, ???? ???? ?? ????? ?????? ??????? API ??????????? ???????. ???? ?? ?????????? ???????? ??? «glNext»14.
3 ????? 2015 ???? Valve ??????????? Source 2, ??????? ?????? ?? ????????? ????????? API Vulkan1516.
?? ?????? 2015 ???? LunarG (???????????? Valve) ????????? ? ?????????? ??????? Linux ??? Intel, ????? ???????? Vulkan ??????? ???????????? ? ????????? ?????????? ???????? HD 4000 ?????, ?????, ???????? ? ???????? ????????? Mesa, ????? ?? ????????? ????????? ? OpenGL 4.01718. ????????? ??? ?????????? 19 ????????? Ivy Bridge, ??? ??? ?? ????????? Direct3D 11.

10 ????? 2015 ???? Google ???????????? ? ??????? ?????? Android ? ??????? Vulkan20.
18 ??????? 2015 ??????? Khronos Group ???????? ? ???, ??? ???????? ?????? Vulkan 1.0 ????????? ???????? ? ????? ????????, ????? ?????? ???????? ???????????? ????????.
16 ??????? 2016 ??????? ????????? ????????? ???????? ?????? Vulkan 1.021 ? ???????????????? ???????? ??? ????????? AMD ?? Nvidia.
26 ??????? 2018 ??????? Khronos ? ????????? ??????????? The Vulkan® Portability Initiative ????????? ???????????? ??????? Vulkan 1.0 SDK ? ?????? ?? ????????? MacOS ? iOS22.
7 ????? 2018 ???? ????????? ??????????? ??????????? ?????? Vulkan 1.123.
15 ?????? 2020 ??????? ????????? ????????? ??????????? ?????? Vulkan 1.224.
15 ?????? 2020 ??????? Khronos Group ???????????? ??????? HLSL-????????? ? Microsoft ?????? ????????? ???????? ? SPIR-V. ?????? HLSL ??????? ?? GLSL ???????? ???????? ?????? ?????????????? ???????? ??? Vulkan25.
17 ????? 2020 ??????? ??????? ??????????? ????????? ?????????? ?????26.
????????? ???????? ???????????, ??????? Vulkan ?????? ???????? ?? ???????????, ????? ?? ???????? ???? ??????????? OpenGL ES 3.1 ???? OpenGL 4.x ? ????49. ? ???????? ?????? Vulkan ?????????

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