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Graphics Feature Status
- Canvas: Hardware accelerated
- Flash: Hardware accelerated
- Flash Stage3D: Hardware accelerated
- Flash Stage3D Baseline profile: Hardware accelerated
- Compositing: Hardware accelerated
- Metal: Disabled
- Multiple Raster Threads: Enabled
- Out-of-process Rasterization: Disabled
- Hardware Protected Video Decode: Unavailable
- Rasterization: Hardware accelerated
- Skia Renderer: Disabled
- Surface Control: Disabled
- Surface Synchronization: Enabled
- Video Decode: Hardware accelerated
- Viz Service Display Compositor: Enabled
- Viz Hit-test Surface Layer: Disabled
- WebGL: Hardware accelerated
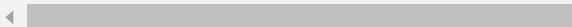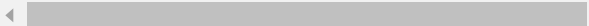- WebGL2: Hardware accelerated

Driver Bug Workarounds
- clear_uniforms_before_first_program_use
- decode_encode_srgb_for_generatemipmap
- disable_delayed_copy_nv12
- disable_direct_composition_layers
- disable_discard_framebuffer
- exit_on_context_lost
- force_cube_complete
- scalarize_vec_and_mat_constructor_args
- disabled_extension_GL_KHR_blend_equation_advanced
- disabled_extension_GL_KHR_blend_equation_advanced_coherent

Problems Detected
- Protected video decoding with swap chain is for Windows and Intel only
  Disabled Features: protected_video_decode
- Some drivers are unable to reset the D3D device in the GPU process sandbox
  Applied Workarounds: exit_on_context_lost
- Clear uniforms before first program use on all platforms: 124764, 349137
  Applied Workarounds: clear_uniforms_before_first_program_use
- Always rewrite vec/mat constructors to be consistent: 398694
  Applied Workarounds: scalarize_vec_and_mat_constructor_args
- ANGLE crash on glReadPixels from incomplete cube map texture: 518889
  Applied Workarounds: force_cube_complete
- Framebuffer discarding can hurt performance on non-tilers: 570897
  Applied Workarounds: disable_discard_framebuffer
- Disable KHR_blend_equation_advanced until cc shaders are updated: 661715
  Applied Workarounds: disable(GL_KHR_blend_equation_advanced), disable(GL_KHR_blend_equation_advanced_coherent)

- Decode and Encode before generateMipmap for srgb format textures on Windows: [634519](#)
  Applied Workarounds: decode_encode_srgb_for_generatemipmap
- Delayed copy NV12 displays incorrect colors on NVIDIA drivers.: [728670](#)
  Applied Workarounds: disable_delayed_copy_nv12
- Hardware overlays result in black videos on non-Intel GPUs: [932879](#)
  Applied Workarounds: disable_direct_composition_layers
- Metal is only available on macOS.
  Disabled Features: metal
- Viz hit-test surface layer version is not enabled by default.
  Disabled Features: viz_hit_test_surface_layer
- Skia renderer is not used by default.
  Disabled Features: skia_renderer

Version Information

Data exported	2019-08-29T17:21:00.576Z
Chrome version	Chrome/76.0.3809.100
Operating system	Windows NT 10.0.18362
Software rendering list URL	https://chromium.googlesource.com/chromium/src/+/ed9d447d30203dc5069
Driver bug list URL	https://chromium.googlesource.com/chromium/src/+/ed9d447d30203dc5069
ANGLE commit id	9379eed38531
2D graphics backend	Skia/76 f13f8690bede09ca97071e9786d68bc0758a24cc
Command Line	"C:\Program Files (x86)\Google\Chrome\Application\chrome.exe" --flag-switches-begin --flag-switches-end

Driver Information

Initialization time	285
In-process GPU	false
Passthrough Command Decoder	true
Sandboxed	true
GPU0	VENDOR = 0x10de, DEVICE= 0x1cb1 *ACTIVE*
GPU1	VENDOR = 0x8086, DEVICE= 0x1912
Optimus	false
AMD switchable	false
Desktop compositing	Aero Glass
Direct composition	true
Supports overlays	false
YUY2 overlay support	NONE
NV12 overlay support	NONE
Diagonal Monitor Size of \\.\DISPLAY1	21.5"
Driver D3D12 feature level	D3D 12.1
Driver Vulkan API version	Vulkan API 1.1.0
Driver vendor	NVIDIA
Driver version	431.70

Driver date	7-24-2019
GPU CUDA compute capability major version	0
Pixel shader version	5.0
Vertex shader version	5.0
Max. MSAA samples	8
Machine model name	
Machine model version	
GL_VENDOR	Google Inc.
GL_RENDERER	ANGLE (NVIDIA Quadro P1000 Direct3D11 vs_5_0 ps_5_0)
GL_VERSION	OpenGL ES 2.0 (ANGLE 2.1.0.9379eed38531)
GL_EXTENSIONS	GL_ANGLE_client_arrays GL_ANGLE_depth_texture GL_ANGLE_explicit_context GL_ANGLE_explicit_context_gles1 GL_ANGLE_framebuffer_blit GL_ANGLE_framebuffer_multisample GL_ANGLE_instanced_arrays GL_ANGLE_lossy_etc_decode GL_ANGLE_memory_size GL_ANGLE_multi_draw GL_ANGLE_multiview_multisample GL_ANGLE_pack_reverse_row_order GL_ANGLE_program_cache_control GL_ANGLE_provoking_vertex GL_ANGLE_request_extension GL_ANGLE_robust_client_memory GL_ANGLE_texture_compression_dxt3 GL_ANGLE_texture_compression_dxt5 GL_ANGLE_texture_usage GL_ANGLE_translated_shader_source GL_CHROMIUM_bind_generates_resource GL_CHROMIUM_bind_uniform_location GL_CHROMIUM_color_buffer_float_rgb GL_CHROMIUM_color_buffer_float_rgba GL_CHROMIUM_copy_compressed_texture GL_CHROMIUM_copy_texture GL_CHROMIUM_lose_context GL_CHROMIUM_sync_query GL_EXT_blend_func_extended GL_EXT_blend_minmax GL_EXT_color_buffer_half_float GL_EXT_debug_marker GL_EXT_discard_framebuffer GL_EXT_disjoint_timer_query GL_EXT_draw_buffers GL_EXT_float_blend GL_EXT_frag_depth GL_EXT_instanced_arrays GL_EXT_map_buffer_range GL_EXT_occlusion_query_boolean GL_EXT_read_format_bgra GL_EXT_robustness GL_EXT_sRGB GL_EXT_shader_texture_lod GL_EXT_texture_compression_bptc GL_EXT_texture_compression_dxt1 GL_EXT_texture_compression_s3tc_srgb GL_EXT_texture_filter_anisotropic GL_EXT_texture_format_BGRA8888 GL_EXT_texture_rg GL_EXT_texture_storage GL_EXT_unpack_subimage GL_KHR_debug GL_KHR_parallel_shader_compile GL_NV_EGL_stream_consumer_external GL_NV_fence GL_NV_pack_subimage GL_NV_pixel_buffer_object GL_OES_EGL_image GL_OES_EGL_image_external GL_OES_compressed_ETC1_RGB8_texture GL_OES_depth32 GL_OES_element_index_uint GL_OES_get_program_binary GL_OES_mapbuffer GL_OES_packed_depth_stencil GL_OES_rgb8_rgba8 GL_OES_standard_derivatives GL_OES_surfaceless_context GL_OES_texture_border_clamp GL_OES_texture_float GL_OES_texture_float_linear GL_OES_texture_half_float GL_OES_texture_half_float_linear

GL_OES_texture_npot GL_OES_vertex_array_object
OES_compressed_EAC_R11_signed_texture
OES_compressed_EAC_R11_unsigned_texture
OES_compressed_EAC_RG11_signed_texture
OES_compressed_EAC_RG11_unsigned_texture
OES_compressed_ETC2_RGB8_texture
OES_compressed_ETC2_RGBA8_texture
OES_compressed_ETC2_punchthroughA_RGBA8_texture
OES_compressed_ETC2_punchthroughA_sRGB8_alpha_texture
OES_compressed_ETC2_sRGB8_alpha8_texture
OES_compressed_ETC2_sRGB8_texture

Disabled Extensions	GL_KHR_blend_equation_advanced GL_KHR_blend_equation_advanced_coherent
Disabled WebGL Extensions	
Window system binding vendor	Google Inc. (adapter LUID: 000000000000a91d)
Window system binding version	1.4 (ANGLE 2.1.0.9379eed38531)
Window system binding extensions	EGL_EXT_create_context_robustness EGL_ANGLE_d3d_share_handle_client_buffer EGL_ANGLE_d3d_texture_client_buffer EGL_ANGLE_surface_d3d_texture_2d_share_handle EGL_ANGLE_query_surface_pointer EGL_ANGLE_window_fixed_size EGL_ANGLE_keyed_mutex EGL_ANGLE_surface_orientation EGL_ANGLE_direct_composition EGL_ANGLE_windows_ui_composition EGL_NV_post_sub_buffer EGL_KHR_create_context EGL_EXT_device_query EGL_KHR_image EGL_KHR_image_base EGL_KHR_gl_texture_2D_image EGL_KHR_gl_texture_cubemap_image EGL_KHR_gl_renderbuffer_image EGL_KHR_get_all_proc_addresses EGL_KHR_stream EGL_KHR_stream_consumer_gltexture EGL_NV_stream_consumer_gltexture_yuv EGL_ANGLE_flexible_surface_compatibility EGL_ANGLE_stream_producer_d3d_texture EGL_ANGLE_create_context_webgl_compatibility EGL_CHROMIUM_create_context_bind_generates_resource EGL_CHROMIUM_sync_control EGL_EXT_pixel_format_float EGL_KHR_surfaceless_context EGL_ANGLE_display_texture_share_group EGL_ANGLE_create_context_client_arrays EGL_ANGLE_program_cache_control EGL_ANGLE_robust_resource_initialization EGL_ANGLE_create_context_extensions_enabled EGL_ANDROID_blob_cache EGL_ANDROID_recordable EGL_ANGLE_workaround_control
Direct rendering version	unknown
Reset notification strategy	0x8252
GPU process crash count	0
gfx::BufferFormats	R_8: not supported, R_16: not supported, RG_88: not supported,

supported for allocation and texturing	BGR_565: not supported, RGBA_4444: not supported, RGBX_8888: not supported, RGBA_8888: not supported, BGRX_8888: not supported, BGRX_1010102: not supported, RGBX_1010102: not supported, BGRA_8888: not supported, RGBA_F16: not supported, YVU_420: not supported, YUV_420_BIPLANAR: not supported, UYVY_422: not supported

Compositor Information

Tile Update Mode	One-copy
Partial Raster	Enabled

GpuMemoryBuffers Status

R_8	Software only
R_16	Software only
RG_88	Software only
BGR_565	Software only
RGBA_4444	Software only
RGBX_8888	GPU_READ, SCANOUT
RGBA_8888	GPU_READ, SCANOUT
BGRX_8888	Software only
BGRX_1010102	Software only
RGBX_1010102	Software only
BGRA_8888	Software only
RGBA_F16	Software only
YVU_420	Software only
YUV_420_BIPLANAR	Software only
UYVY_422	Software only

Display(s) Information

Info	Display[2528732444] bounds=[0,0 1920x1080], workarea=[0,0 1920x1040], scale=1, external.
Color space information	{primaries:BT709, transfer:IEC61966_2_1, matrix:RGB, range:FULL}
Bits per color component	8
Bits per pixel	24
Refresh Rate in Hz	60

Video Acceleration Information

Decode h264 baseline	up to 4096x2304 pixels
Decode h264 baseline	up to 2304x4096 pixels
Decode h264 main	up to 4096x2304 pixels
Decode h264 main	up to 2304x4096 pixels
Decode h264 high	up to 4096x2304 pixels
Decode h264 high	up to 2304x4096 pixels
Decode vp9 profile0	up to 8192x8192 pixels
Decode vp9 profile0	up to 8192x8192 pixels
Decode vp9 profile2	up to 8192x8192 pixels

Decode vp9 profile2	up to 8192x8192 pixels
Encode h264 baseline	up to 3840x2176 pixels and/or 30.000 fps
Encode h264 main	up to 3840x2176 pixels and/or 30.000 fps
Encode h264 high	up to 3840x2176 pixels and/or 30.000 fps

Diagnostics

0	
b3DAccelerationEnable	true
b3DAccelerationExists	true
bAGPEnabled	true
bAGPExistenceValid	true
bAGPExists	true
bCanRenderWindow	true
bDDAccelerationEnabl	true
bDriverBeta	false
bDriverDebug	false
bDriverSigned	false
bDriverSignedValid	false
bNoHardware	false
dwBpp	32
dwDDIVersion	12
dwHeight	1080
dwRefreshRate	60
dwWHQLLevel	0
dwWidth	1920
iAdapter	0
lDriverSize	959544
lMiniVddSize	0
szAGPStatusEnglish	Enabled
szAGPStatusLocalized	Enabled
szChipType	Quadro P1000
szD3DStatusEnglish	Enabled
szD3DStatusLocalized	Enabled
szDACType	Integrated RAMDAC
szDDIVersionEnglish	12
szDDIVersionLocalized	12
szDDStatusEnglish	Enabled
szDDStatusLocalized	Enabled
szDXVAHDEnglish	Supported
szDXVAModes	
szDescription	NVIDIA Quadro P1000
szDeviceId	0x1CB1

szDeviceIdentifier	{D7B71E3E-5FF1-11CF-FA7F-B2311BC2D735}
szDeviceName	\\.\DISPLAY1
szDisplayMemoryEngli	12156 MB
szDisplayMemoryLoca	12156 MB
szDisplayModeEnglish	1920 x 1080 (32 bit) (60Hz)
szDisplayModeLocalize	1920 x 1080 (32 bit) (60Hz)
szDriverAssemblyVers	26.21.14.3170
szDriverAttributes	Final Retail
szDriverDateEnglish	7/23/2019 8:00:00 PM
szDriverDateLocalized	7/23/2019 20:00:00
szDriverLanguageEngl	English
szDriverLanguageLoca	English
szDriverModelEnglish	WDDM 2.6
szDriverModelLocalize	WDDM 2.6
szDriverName	C:\windows\System32\DriverStore\FileRepository\nv_dispwi.inf_amd64_e2
szDriverNodeStrongNa	oem85.inf:0f066de394f9d68c:Section047:26.21.14.3170:pci\ven_10de&dev
szDriverSignDate	Unknown
szDriverVersion	26.21.0014.3170
szKeyDeviceID	Enum\PCI\VEN_10DE&DEV_1CB1&SUBSYS_11BC1028&REV_A1
szKeyDeviceKey	\Registry\Machine\System\CurrentControlSet\Control\Video\{7CEE22C2-C08D-11E9-BE48-54BF645BF077}\0000
szManufacturer	NVIDIA
szMiniVdd	unknown
szMiniVddDateEnglish	Unknown
szMiniVddDateLocalize	unknown
szMonitorMaxRes	Unknown
szMonitorName	Generic PnP Monitor
szNotesEnglish	No problems found.
szNotesLocalized	No problems found.
szOverlayEnglish	Supported
szRankOfInstalledDrive	00CF2001
szRegHelpText	Unknown
szRevision	Unknown
szRevisionId	0x00A1
szSubSysId	0x11BC1028

szTestResultD3D7Engl	Not run
szTestResultD3D7Loca	Not run
szTestResultD3D8Engl	Not run
szTestResultD3D8Loca	Not run
szTestResultD3D9Engl	Not run
szTestResultD3D9Loca	Not run
szTestResultDDEnglish	Not run
szTestResultDDLocaliz	Not run
szVdd	unknown
szVendorId	0x10DE

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b3DAccelerationEnable	true
b3DAccelerationExists	true
bAGPEnabled	true
bAGPExistenceValid	false
bAGPExists	false
bCanRenderWindow	false
bDDAccelerationEnable	true
bDriverBeta	false
bDriverDebug	false
bDriverSigned	false
bDriverSignedValid	false
bNoHardware	false
dwBpp	0
dwDDIVersion	12
dwHeight	0
dwRefreshRate	0
dwWHQLLevel	0
dwWidth	0
iAdapter	0
lDriverSize	1836048
lMiniVddSize	0
szAGPStatusEnglish	Enabled
szAGPStatusLocalized	Enabled
szChipType	Intel(R) HD Graphics Family
szD3DStatusEnglish	Enabled
szD3DStatusLocalized	Enabled

szDACType	Internal
szDDIVersionEnglish	12
szDDIVersionLocalized	12
szDDStatusEnglish	Enabled
szDDStatusLocalized	Enabled
szDXVAHDEnglish	Unknown
szDXVAModes	Unknown
szDescription	Intel(R) HD Graphics 530
szDeviceId	0x1912
szDeviceIdentifier	Unknown
szDeviceName	Unknown
szDisplayMemoryEngli	8265 MB
szDisplayMemoryLoca	8265 MB
szDisplayModeEnglish	Unknown
szDisplayModeLocalize	unknown
szDriverAssemblyVers	25.20.100.6576
szDriverAttributes	Final Retail
szDriverDateEnglish	2/6/2019 8:00:00 PM
szDriverDateLocalized	2/6/2019 20:00:00
szDriverLanguageEngl	English
szDriverLanguageLoca	English
szDriverModelEnglish	WDDM 2.1
szDriverModelLocalize	WDDM 2.1
szDriverName	C:\windows\System32\DriverStore\FileRepository\ki131367.inf_amd64_491
szDriverNodeStrongNa	oem15.inf:5f63e53470659c00:iSKLD_w10_DS:25.20.100.6576:pci\ven_80
szDriverSignDate	Unknown
szDriverVersion	25.20.0100.6576
szKeyDeviceID	Enum\PCI\VEN_8086&DEV_1912&SUBSYS_06C71028&REV_06
szKeyDeviceKey	Unknown
szManufacturer	Intel Corporation
szMiniVdd	unknown
szMiniVddDateEnglish	Unknown
szMiniVddDateLocalize	unknown
szMonitorMaxRes	Unknown

szMonitorName	Unknown
szNotesEnglish	No problems found.
szNotesLocalized	No problems found.
szOverlayEnglish	Unknown
szRankOfInstalledDrive	00D10001
szRegHelpText	Unknown
szRevision	Unknown
szRevisionId	0x0006
szSubSysId	0x06C71028
szTestResultD3D7Engl	Not run
szTestResultD3D7Loca	Not run
szTestResultD3D8Engl	Not run
szTestResultD3D8Loca	Not run
szTestResultD3D9Engl	Not run
szTestResultD3D9Loca	Not run
szTestResultDDEnglish	Not run
szTestResultDDLocaliz	Not run
szVdd	unknown
szVendorId	0x8086

Log Messages

- GpuProcessHostUIShim:
- [11472:8892:0829/114357.654:WARNING:angle_platform_impl.cc(52)] : compileToBinary(259): C:\fakepath(75,10-46): warning X3571: pow(f, e) will not work for negative f, use abs(f) or conditionally handle negative values if you expect them C:\fakepath(97,10-46): warning X3571: pow(f, e) will not work for negative f, use abs(f) or conditionally handle negative values if you expect them
- GpuProcessHostUIShim: