**New Functions:**

Added NvAPI\_GPU\_GetEncoderStatistics

Added NvAPI\_GPU\_GetEncoderSessionsInfo

Added NvAPI\_D3D12\_ConvertCooperativeVectorMatrix

Added NvAPI\_D3D12\_ConvertCooperativeVectorMatrixMultiple

Added NvAPI\_D3D12\_GetPhysicalDeviceCooperativeVectorProperties

Added NvAPI\_D3D12\_GetRaytracingMultiIndirectClusterOperationRequirementsInfo

Added NvAPI\_D3D12\_RaytracingExecuteMultiIndirectClusterOperation

Added NvAPI\_D3D12\_GetRaytracingPartitionedTlasIndirectPrebuildInfo

Added NvAPI\_D3D12\_BuildRaytracingPartitionedTlasIndirect

Added NvAPI\_NGX\_GetNGXOverrideState

Added NvAPI\_NGX\_SetNGXOverrideState

Added NvAPI\_Vulkan\_InitLowLatencyDevice

Added NvAPI\_Vulkan\_DestroyLowLatencyDevice

Added NvAPI\_Vulkan\_GetSleepStatus

Added NvAPI\_Vulkan\_SetSleepMode

Added NvAPI\_Vulkan\_Sleep

Added NvAPI\_Vulkan\_GetLatency

Added NvAPI\_Vulkan\_SetLatencyMarker

Added NvAPI\_Vulkan\_NotifyOutOfBandVkQueue

Added NvAPI\_RegisterRiseCallback

Added NvAPI\_RequestRise

Added NvAPI\_UninstallRise

**New Structures:**

Added NV\_ENCODER\_STATISTICS\_V1

Added NV\_ENCODER\_PER\_SESSION\_INFO\_V1

Added NV\_ENCODER\_SESSIONS\_INFO\_V1

Added rrx1k to NV\_GET\_VIRTUAL\_REFRESH\_RATE\_DATA\_V1

Added bIsGamingVrr to NV\_GET\_VIRTUAL\_REFRESH\_RATE\_DATA\_V1

Added rrx1k to NV\_SET\_VIRTUAL\_REFRESH\_RATE\_DATA\_V1

Added bIsGamingVrr to NV\_SET\_VIRTUAL\_REFRESH\_RATE\_DATA\_V1

Added vendorInternal to NV\_ASYNC\_FRAME\_MARKER\_PARAMS\_V1

Added NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_SPHERES\_DESC

Added NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_LSS\_DESC

Added spheres to NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_DESC\_EX

Added lss to NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_DESC\_EX

Added NVAPI\_DEVICE\_OR\_HOST\_ADDRESS

Added NVAPI\_CONVERT\_COOPERATIVE\_VECTOR\_MATRIX\_DESC\_V1

Added NVAPI\_COOPERATIVE\_VECTOR\_PROPERTIES\_V1

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_INPUT\_CLAS\_DESC

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_INPUT\_TRIANGLES\_DESC

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_INPUT\_MOVES\_DESC

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_INPUTS

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_REQUIREMENTS\_INFO

Added NVAPI\_GET\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_REQUIREMENTS\_INFO\_PARAMS\_V1

Added NVAPI\_D3D12\_RAYTRACING\_ACCELERATION\_STRUCTURE\_MULTI\_INDIRECT\_CLUSTER\_ARGS

Added NVAPI\_D3D12\_RAYTRACING\_ACCELERATION\_STRUCTURE\_MULTI\_INDIRECT\_TRIANGLE\_CLUSTER\_ARGS

Added NVAPI\_D3D12\_RAYTRACING\_ACCELERATION\_STRUCTURE\_MULTI\_INDIRECT\_TRIANGLE\_TEMPLATE\_ARGS

Added NVAPI\_D3D12\_RAYTRACING\_ACCELERATION\_STRUCTURE\_MULTI\_INDIRECT\_INSTANTIATE\_TEMPLATE\_ARGS

Added NVAPI\_D3D12\_RAYTRACING\_ACCELERATION\_STRUCTURE\_MULTI\_INDIRECT\_MOVE\_ARGS

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_DESC

Added NVAPI\_RAYTRACING\_EXECUTE\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_PARAMS\_V1

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_INDIRECT\_INPUTS

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_INDIRECT\_PREBUILD\_INFO

Added NVAPI\_GET\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_INDIRECT\_PREBUILD\_INFO\_PARAMS\_V1

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_OP\_ARG\_WRITE\_INSTANCE

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_OP\_ARG\_UPDATE\_INSTANCE

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_OP\_ARG\_WRITE\_PARTITION

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_OP

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_INDIRECT\_DESC

Added NVAPI\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_INDIRECT\_PARAMS\_V1

Added NV\_NGX\_DLSS\_OVERRIDE\_GET\_STATE\_PARAMS\_V1

Added NV\_NGX\_DLSS\_OVERRIDE\_SET\_STATE\_PARAMS\_V1

Added NV\_VULKAN\_GET\_SLEEP\_STATUS\_PARAMS\_V1

Added NV\_VULKAN\_SET\_SLEEP\_MODE\_PARAMS\_V1

Added NV\_VULKAN\_LATENCY\_RESULT\_PARAMS\_V1

Added NV\_VULKAN\_LATENCY\_MARKER\_PARAMS\_V1

Added NV\_RISE\_CALLBACK\_DATA\_V1

Added NV\_RISE\_CALLBACK\_SETTINGS\_V1

Added NV\_REQUEST\_RISE\_SETTINGS\_V1

Added NV\_UNINSTALL\_RISE\_SETTINGS\_V1

**New Enums:**

Added NV\_GPU\_ARCHITECTURE\_GB200 to NV\_GPU\_ARCHITECTURE\_ID

Added NV\_GPU\_ARCH\_IMPLEMENTATION\_GB202 to NV\_GPU\_ARCH\_IMPLEMENTATION\_ID

Added NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_SCANOUT\_INTENSITY\_METHOD to NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER

Added NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE\_SCANOUT\_INTENSITY\_NO\_GAMMA to NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE

Added NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE\_SCANOUT\_INTENSITY\_COLOR\_GAMMA to NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE

Added NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE\_SCANOUT\_INTENSITY\_COLOR\_AND\_OFFSET\_GAMMA to NV\_GPU\_SCANOUT\_COMPOSITION\_PARAMETER\_VALUE

Added NV\_ENCODER\_TYPE

Added OUT\_OF\_BAND\_RENDER\_PRESENT to NV\_OUT\_OF\_BAND\_CQ\_TYPE

Added NVAPI\_D3D12\_RAYTRACING\_CLUSTER\_OPERATIONS\_CAPS

Added NVAPI\_D3D12\_RAYTRACING\_PARTITIONED\_TLAS\_CAPS

Added NVAPI\_D3D12\_RAYTRACING\_SPHERES\_CAPS

Added NVAPI\_D3D12\_RAYTRACING\_LINEAR\_SWEPT\_SPHERES\_CAPS

Added NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE\_CLUSTER\_OPERATIONS to NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE

Added NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE\_PARTITIONED\_TLAS to NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE

Added NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE\_SPHERES to NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE

Added NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE\_LINEAR\_SWEPT\_SPHERES to NVAPI\_D3D12\_RAYTRACING\_CAPS\_TYPE

Added NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS\_ENABLE\_CLUSTER\_SUPPORT to NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS

Added NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS\_ENABLE\_SPHERE\_SUPPORT to NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS

Added NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS\_ENABLE\_LSS\_SUPPORT to NVAPI\_D3D12\_PIPELINE\_CREATION\_STATE\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_TYPE\_SPHERES\_EX to NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_TYPE\_EX

Added NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_TYPE\_LSS\_EX to NVAPI\_D3D12\_RAYTRACING\_GEOMETRY\_TYPE\_EX

Added NVAPI\_D3D12\_RAYTRACING\_OPACITY\_MICROMAP\_SPECIAL\_INDEX\_CLUSTER\_SKIP\_OMM to NVAPI\_D3D12\_RAYTRACING\_OPACITY\_MICROMAP\_SPECIAL\_INDEX

Added NVAPI\_D3D12\_RAYTRACING\_LSS\_ENDCAP\_MODE

Added NVAPI\_D3D12\_RAYTRACING\_LSS\_PRIMITIVE\_FORMAT

Added NVAPI\_COOPERATIVE\_VECTOR\_COMPONENT\_TYPE

Added NVAPI\_COOPERATIVE\_VECTOR\_MATRIX\_LAYOUT

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_CLUSTER\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_GEOMETRY\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_TYPE

Added NVAPI\_3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_INDEX\_FORMAT

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_MODE

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_MOVE\_TYPE

Added NVAPI\_D3D12\_RAYTRACING\_MULTI\_INDIRECT\_CLUSTER\_OPERATION\_ADDRESS\_RESOLUTION\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_PARTITIONED\_TLAS\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_PARTITIONED\_TLAS\_INSTANCE\_FLAGS

Added NVAPI\_D3D12\_RAYTRACING\_PARTITIONED\_TLAS\_PARTITION\_INDEX

Added NVAPI\_D3D12\_BUILD\_RAYTRACING\_PARTITIONED\_TLAS\_OP\_TYPE

Added NV\_NGX\_DLSS\_OVERRIDE\_BITFIELD

Added NV\_VULKAN\_LATENCY\_MARKER\_TYPE

Added NV\_VULKAN\_OUT\_OF\_BAND\_QUEUE\_TYPE

Added NV\_RISE\_CONTENT\_TYPE

**New Unions:**

**New MACRO:**

**New Errors:**

**TCC Support:**

**MCDM Support:**

**NVAPI Security Info:**

**Deprecated NvAPI functions:**

NvAPI\_D3D12\_GetRaytracingDisplacementMicromapArrayPrebuildInfo

NvAPI\_D3D12\_BuildRaytracingDisplacementMicromapArray

NvAPI\_D3D12\_RelocateRaytracingDisplacementMicromapArray

NvAPI\_D3D12\_EmitRaytracingDisplacementMicromapArrayPostbuildInfo

**Deprecated Enum values:**

**NvAPIDriverSettings additions/ removal:**

Added NGX\_DLAA\_OVERRIDE\_ID

Added NGX\_DLSSG\_MULTI\_FRAME\_COUNT\_ID

Added NGX\_DLSS\_FG\_OVERRIDE\_ID

Added NGX\_DLSS\_FG\_OVERRIDE\_RESERVED\_KEY1\_ID

Added NGX\_DLSS\_FG\_OVERRIDE\_RESERVED\_KEY2\_ID

Added NGX\_DLSS\_OVERRIDE\_OPTIMAL\_SETTINGS\_ID

Added NGX\_DLSS\_RR\_MODE\_ID

Added NGX\_DLSS\_RR\_OVERRIDE\_ID

Added NGX\_DLSS\_RR\_OVERRIDE\_RENDER\_PRESET\_SELECTION\_ID

Added NGX\_DLSS\_RR\_OVERRIDE\_RESERVED\_KEY1\_ID

Added NGX\_DLSS\_RR\_OVERRIDE\_RESERVED\_KEY2\_ID

Added NGX\_DLSS\_SR\_MODE\_ID

Added NGX\_DLSS\_SR\_OVERRIDE\_ID

Added NGX\_DLSS\_SR\_OVERRIDE\_RENDER\_PRESET\_SELECTION\_ID

Added NGX\_DLSS\_SR\_OVERRIDE\_RESERVED\_KEY1\_ID

Added NGX\_DLSS\_SR\_OVERRIDE\_RESERVED\_KEY2\_ID

**HLSL Extentions additions/ removal:**

Added DXR Cluster Geometry Extension

NvRtGetClusterID

Added DXR Linear Swept Sphere Extension

NvRtSphereObjectPositionAndRadius

NvRtLssObjectPositionsAndRadii

NvRtIsSphereHit

NvRtIsLssHit

Added DXR RayQuery functions

\_\_NvRtGetCandidateClusterID

\_\_NvRtGetCommittedClusterID

\_\_NvRtCandidateTriangleObjectPositions

\_\_NvRtCommittedTriangleObjectPositions

\_\_NvRtCandidateIsNonOpaqueSphere

\_\_NvRtCandidateIsNonOpaqueLss

\_\_NvRtCandidateLssHitParameter

\_\_NvRtCandidateSphereObjectPositionAndRadius

\_\_NvRtCandidateLssObjectPositionsAndRadii

\_\_NvRtCandidateBuiltinPrimitiveRayT

\_\_NvRtCommittedIsSphere

\_\_NvRtCommittedIsLss

\_\_NvRtCommittedLssHitParameter

\_\_NvRtCommittedSphereObjectPositionAndRadius

\_\_NvRtCommittedLssObjectPositionsAndRadii

\_\_NvRtCommitNonOpaqueBuiltinPrimitiveHit