NVAPI SDK – Public for Driver Release 510

Release Notes

RN-06118-510-001_v01 | October 2021

Document History

RN-06118-510-001_v01

Version	Date	Authors	Description of Change
01	1/10/2022	CC	Initial release

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NVAPI Release Notes

Introduction

NVAPI is NVIDIA's core software development kit that allows direct access to NVIDIA GPUs and drivers on all windows platforms. NVAPI provides support for categories of operations that range beyond the scope of those found in familiar graphics APIs such as DirectX and OpenGL.

The following files are provided by NVIDIA:

- nvapi.h
- nvapi_lite_common.h
- nvapi_lite_d3dext.h
- nvapi_lite_salend.h
- nvapi_lite_salstart.h
- nvapi_lite_sli.h
- nvapi_lite_stereo.h
- nvapi_lite_surround.h
- NvApiDriverSettings.c
- NvApiDriverSettings.h
- nvHLSLExtns.h
- nvHLSLExtnsInternal.h
- nvShaderExtnEnums.h
- \x86\nvapi.lib
- \amd64\nvapi64.lib
- \doc\NVAPI_Reference_Developer.chm
- \doc\NVAPI SDKs Samples and Tools License Agreement (Public).pdf

These release notes describe the changes made in the NVAPI NDA SDK for the Release 510 driver.

Changes in NVAPI for Driver Release 510

New/Updated Functions

- Added NvAPI_GetPhysicalGPUFromGPUID
- Added NvAPI_GetGPUIDfromPhysicalGPU
- Added NvAPI_GPU_CudaEnumComputeCapableGpus
- Added NvAPI_DISP_GetVirtualRefreshRateData
- Added NvAPI_DISP_SetVirtualRefreshRateData
- Added NvAPI_D3D12_CreateDDisplayPresentBarrierClient
- Added NvAPI_D3D12_GetOptimalThreadCountForMesh

TCC Support added to the following functions:

- N/A

New/Updated Structures

- Added NV_COMPUTE_GPU_TOPOLOGY_V1
- Added NV_COMPUTE_GPU
- Added NV_COMPUTE_GPU_TOPOLOGY_V2
- Added NV_GET_VIRTUAL_REFRESH_RATE_DATA_V1
- Added NV_SET_VIRTUAL_REFRESH_RATE_DATA_V1

New Enums

- N/A

New Unions

- None

New Defines

- None

New Errors

- None

Deprecated NVAPI Functions

The following functions are deprecated:

Deprecated	Replaced By
N/A	N/A

The following enum values are deprecated:

Deprecated	Replaced By
Deprecated NVAPI_GPU_CONNECTOR_VIRTUAL_WFD from NV_GPU_CONNECTOR_TYPE	N/A

NVAPIDriverSettings Additions/Removals

- Added PS_SHADERDISKCACHE_MAX_SIZE setting

HLSL Extension Additions/Changes

- None

NVAPI Security Information

User administrator privilege is required to access certain driver features, as per NVIDIA's overall security vision. This helps mitigate the impact of malware.

Each API that requires the administrator access, will return NVAPI_INVALID_USER_PRIVILEGE error, when run with standard user privilege. The application will require Administrator privileges to access this API, which can be elevated to a higher permission level by selecting "Run as Administrator" in Admin approval mode.

About the Sample Code

Sample code is provided with the SDK package that demonstrates the following features:

- Custom Timing
- Display Color Control
- Display Configuration
- I2C
- QSYNC Event Registration
- Sync_Configuration

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