NAME

Data types used by CUDA Runtime −

Data Structures

struct **cudaChannelFormatDesc**
struct **cudaDeviceProp**
struct **cudaExtent**
struct **cudaFuncAttributes**
struct **cudaIpcEventHandle_t**
struct **cudaIpcMemHandle_t**
struct **cudaMemcpy3DParms**
struct **cudaMemcpy3DPeerParms**
struct **cudaPitchedPtr**
struct **cudaPointerAttributes**
struct **cudaPos**
struct **cudaResourceDesc**
struct **cudaResourceViewDesc**
struct **cudaTextureDesc**
struct **surfaceReference**
struct **textureReference**

Defines

#define **CUDA_IPC_HANDLE_SIZE** 64
#define **cudaArrayCubemap** 0x04
#define **cudaArrayDefault** 0x00
#define **cudaArrayLayered** 0x01
#define **cudaArraySurfaceLoadStore** 0x02
#define **cudaArrayTextureGather** 0x08
#define **cudaDeviceBlockingSync** 0x04
#define **cudaDeviceLmemResizeToMax** 0x10
#define **cudaDeviceMapHost** 0x08
#define **cudaDeviceMask** 0x1f
#define **cudaDevicePropDontCare**
#define **cudaDeviceScheduleAuto** 0x00
#define **cudaDeviceScheduleBlockingSync** 0x04
#define **cudaDeviceScheduleMask** 0x07
#define **cudaDeviceScheduleSpin** 0x01
#define **cudaDeviceScheduleYield** 0x02
#define **cudaEventBlockingSync** 0x01
#define **cudaEventDefault** 0x00
#define **cudaEventDisableTiming** 0x02
#define **cudaEventInterprocess** 0x04
#define **cudaHostAllocDefault** 0x00
#define **cudaHostAllocMapped** 0x02
#define **cudaHostAllocPortable** 0x01
#define **cudaHostAllocWriteCombined** 0x04
#define **cudaHostRegisterDefault** 0x00
#define **cudaHostRegisterMapped** 0x02
#define **cudaHostRegisterPortable** 0x01
#define **cudaIpcMemLazyEnablePeerAccess** 0x01
#define **cudaMemAttachGlobal** 0x01
#define **cudaMemAttachHost** 0x02
#define **cudaMemAttachSingle** 0x04
#define **cudaPeerAccessDefault** 0x00
#define **cudaStreamDefault** 0x00
#define **cudaStreamNonBlocking** 0x01

Typedefs

typedef struct cudaArray * **cudaArray_const_t**
typedef struct cudaArray * **cudaArray_t**



typedef enum **cudaError cudaError_t**
typedef struct CUevent_st * **cudaEvent_t**
typedef struct cudaGraphicsResource * **cudaGraphicsResource_t**
typedef struct cudaMipmappedArray * **cudaMipmappedArray_const_t**
typedef struct cudaMipmappedArray * **cudaMipmappedArray_t**
typedef enum **cudaOutputMode cudaOutputMode_t**
typedef struct CUstream_st * **cudaStream_t**
typedef unsigned long long **cudaSurfaceObject_t**
typedef unsigned long long **cudaTextureObject_t**
typedef struct CUuuid_st **cudaUUID_t**

Enumerations

enum **cudaChannelFormatKind** { **cudaChannelFormatKindSigned** = 0, **cudaChannelFormatKindUnsigned** = 1, **cudaChannelFormatKindFloat** = 2, **cudaChannelFormatKindNone** = 3 }
enum **cudaComputeMode** { **cudaComputeModeDefault** = 0, **cudaComputeModeExclusive** = 1, **cudaComputeModeProhibited** = 2, **cudaComputeModeExclusiveProcess** = 3 }
enum **cudaDeviceAttr** { **cudaDevAttrMaxThreadsPerBlock** = 1, **cudaDevAttrMaxBlockDimX** = 2, **cudaDevAttrMaxBlockDimY** = 3, **cudaDevAttrMaxBlockDimZ** = 4, **cudaDevAttrMaxGridDimX** = 5, **cudaDevAttrMaxGridDimY** = 6, **cudaDevAttrMaxGridDimZ** = 7, **cudaDevAttrMaxSharedMemoryPerBlock** = 8, **cudaDevAttrTotalConstantMemory** = 9, **cudaDevAttrWarpSize** = 10, **cudaDevAttrMaxPitch** = 11, **cudaDevAttrMaxRegistersPerBlock** = 12, **cudaDevAttrClockRate** = 13, **cudaDevAttrTextureAlignment** = 14, **cudaDevAttrGpuOverlap** = 15, **cudaDevAttrMultiProcessorCount** = 16, **cudaDevAttrKernelExecTimeout** = 17, **cudaDevAttrIntegrated** = 18, **cudaDevAttrCanMapHostMemory** = 19, **cudaDevAttrComputeMode** = 20, **cudaDevAttrMaxTexture1DWidth** = 21, **cudaDevAttrMaxTexture2DWidth** = 22, **cudaDevAttrMaxTexture2DHeight** = 23, **cudaDevAttrMaxTexture3DWidth** = 24, **cudaDevAttrMaxTexture3DHeight** = 25, **cudaDevAttrMaxTexture3DDepth** = 26, **cudaDevAttrMaxTexture2DLayeredWidth** = 27, **cudaDevAttrMaxTexture2DLayeredHeight** = 28, **cudaDevAttrMaxTexture2DLayeredLayers** = 29, **cudaDevAttrSurfaceAlignment** = 30, **cudaDevAttrConcurrentKernels** = 31, **cudaDevAttrEccEnabled** = 32, **cudaDevAttrPciBusId** = 33, **cudaDevAttrPciDeviceId** = 34, **cudaDevAttrTccDriver** = 35, **cudaDevAttrMemoryClockRate** = 36, **cudaDevAttrGlobalMemoryBusWidth** = 37, **cudaDevAttrL2CacheSize** = 38, **cudaDevAttrMaxThreadsPerMultiProcessor** = 39, **cudaDevAttrAsyncEngineCount** = 40, **cudaDevAttrUnifiedAddressing** = 41, **cudaDevAttrMaxTexture1DLayeredWidth** = 42, **cudaDevAttrMaxTexture1DLayeredLayers** = 43, **cudaDevAttrMaxTexture2DGatherWidth** = 45, **cudaDevAttrMaxTexture2DGatherHeight** = 46, **cudaDevAttrMaxTexture3DWidthAlt** = 47, **cudaDevAttrMaxTexture3DHeightAlt** = 48, **cudaDevAttrMaxTexture3DDepthAlt** = 49, **cudaDevAttrPciDomainId** = 50, **cudaDevAttrTexturePitchAlignment** = 51, **cudaDevAttrMaxTextureCubemapWidth** = 52, **cudaDevAttrMaxTextureCubemapLayeredWidth** = 53, **cudaDevAttrMaxTextureCubemapLayeredLayers** = 54, **cudaDevAttrMaxSurface1DWidth** = 55, **cudaDevAttrMaxSurface2DWidth** = 56, **cudaDevAttrMaxSurface2DHeight** = 57, **cudaDevAttrMaxSurface3DWidth** = 58, **cudaDevAttrMaxSurface3DHeight** = 59, **cudaDevAttrMaxSurface3DDepth** = 60, **cudaDevAttrMaxSurface1DLayeredWidth** = 61, **cudaDevAttrMaxSurface1DLayeredLayers** = 62, **cudaDevAttrMaxSurface2DLayeredWidth** = 63, **cudaDevAttrMaxSurface2DLayeredHeight** = 64, **cudaDevAttrMaxSurface2DLayeredLayers** = 65, **cudaDevAttrMaxSurfaceCubemapWidth** = 66, **cudaDevAttrMaxSurfaceCubemapLayeredWidth** = 67, **cudaDevAttrMaxSurfaceCubemapLayeredLayers** = 68, **cudaDevAttrMaxTexture1DLinearWidth** = 69, **cudaDevAttrMaxTexture2DLinearWidth** = 70, **cudaDevAttrMaxTexture2DLinearHeight** = 71,



cudaDevAttrMaxTexture2DLinearPitch = 72,
cudaDevAttrMaxTexture2DMipmappedWidth = 73,
cudaDevAttrMaxTexture2DMipmappedHeight = 74,
cudaDevAttrComputeCapabilityMajor = 75, **cudaDevAttrComputeCapabilityMinor** = 76, **cudaDevAttrMaxTexture1DMipmappedWidth** = 77,
cudaDevAttrStreamPrioritiesSupported = 78, **cudaDevAttrGlobalL1CacheSupported** = 79, **cudaDevAttrLocalL1CacheSupported** = 80,
cudaDevAttrMaxSharedMemoryPerMultiprocessor = 81,
cudaDevAttrMaxRegistersPerMultiprocessor = 82, **cudaDevAttrManagedMemory** = 83,
cudaDevAttrIsMultiGpuBoard = 84, **cudaDevAttrMultiGpuBoardGroupID** = 85 }

enum **cudaError** { **cudaSuccess** = 0, **cudaErrorMissingConfiguration** = 1,
cudaErrorMemoryAllocation = 2, **cudaErrorInitializationError** = 3,
cudaErrorLaunchFailure = 4, **cudaErrorPriorLaunchFailure** = 5,
cudaErrorLaunchTimeout = 6, **cudaErrorLaunchOutOfResources** = 7,
cudaErrorInvalidDeviceFunction = 8, **cudaErrorInvalidConfiguration** = 9,
cudaErrorInvalidDevice = 10, **cudaErrorInvalidValue** = 11, **cudaErrorInvalidPitchValue** = 12, **cudaErrorInvalidSymbol** = 13, **cudaErrorMapBufferObjectFailed** = 14,
cudaErrorUnmapBufferObjectFailed = 15, **cudaErrorInvalidHostPointer** = 16,
cudaErrorInvalidDevicePointer = 17, **cudaErrorInvalidTexture** = 18,
cudaErrorInvalidTextureBinding = 19, **cudaErrorInvalidChannelDescriptor** = 20,
cudaErrorInvalidMemcpyDirection = 21, **cudaErrorAddressOfConstant** = 22,
cudaErrorTextureFetchFailed = 23, **cudaErrorTextureNotBound** = 24,
cudaErrorSynchronizationError = 25, **cudaErrorInvalidFilterSetting** = 26,
cudaErrorInvalidNormSetting = 27, **cudaErrorMixedDeviceExecution** = 28,
cudaErrorCudartUnloading = 29, **cudaErrorUnknown** = 30,
cudaErrorNotYetImplemented = 31, **cudaErrorMemoryValueTooLarge** = 32,
cudaErrorInvalidResourceHandle = 33, **cudaErrorNotReady** = 34,
cudaErrorInsufficientDriver = 35, **cudaErrorSetOnActiveProcess** = 36,
cudaErrorInvalidSurface = 37, **cudaErrorNoDevice** = 38, **cudaErrorECCUncorrectable** = 39, **cudaErrorSharedObjectSymbolNotFound** = 40, **cudaErrorSharedObjectInitFailed** = 41, **cudaErrorUnsupportedLimit** = 42, **cudaErrorDuplicateVariableName** = 43,
cudaErrorDuplicateTextureName = 44, **cudaErrorDuplicateSurfaceName** = 45,
cudaErrorDevicesUnavailable = 46, **cudaErrorInvalidKernelImage** = 47,
cudaErrorNoKernelImageForDevice = 48, **cudaErrorIncompatibleDriverContext** = 49,
cudaErrorPeerAccessAlreadyEnabled = 50, **cudaErrorPeerAccessNotEnabled** = 51,
cudaErrorDeviceAlreadyInUse = 54, **cudaErrorProfilerDisabled** = 55,
cudaErrorProfilerNotInitialized = 56, **cudaErrorProfilerAlreadyStarted** = 57,
cudaErrorProfilerAlreadyStopped = 58, **cudaErrorAssert** = 59, **cudaErrorTooManyPeers** = 60, **cudaErrorHostMemoryAlreadyRegistered** = 61,
cudaErrorHostMemoryNotRegistered = 62, **cudaErrorOperatingSystem** = 63,
cudaErrorPeerAccessUnsupported = 64, **cudaErrorLaunchMaxDepthExceeded** = 65,
cudaErrorLaunchFileScopedTex = 66, **cudaErrorLaunchFileScopedSurf** = 67,
cudaErrorSyncDepthExceeded = 68, **cudaErrorLaunchPendingCountExceeded** = 69,
cudaErrorNotPermitted = 70, **cudaErrorNotSupported** = 71,
cudaErrorHardwareStackError = 72, **cudaErrorIllegalInstruction** = 73,
cudaErrorMisalignedAddress = 74, **cudaErrorInvalidAddressSpace** = 75,
cudaErrorInvalidPc = 76, **cudaErrorIllegalAddress** = 77, **cudaErrorStartupFailure** = 0x7f, **cudaErrorApiFailureBase** = 10000 }

enum **cudaFuncCache** { **cudaFuncCachePreferNone** = 0, **cudaFuncCachePreferShared** = 1,
cudaFuncCachePreferL1 = 2, **cudaFuncCachePreferEqual** = 3 }

enum **cudaGraphicsCubeFace** { **cudaGraphicsCubeFacePositiveX** = 0x00,
cudaGraphicsCubeFaceNegativeX = 0x01, **cudaGraphicsCubeFacePositiveY** = 0x02,
cudaGraphicsCubeFaceNegativeY = 0x03, **cudaGraphicsCubeFacePositiveZ** = 0x04,
cudaGraphicsCubeFaceNegativeZ = 0x05 }

enum **cudaGraphicsMapFlags** { **cudaGraphicsMapFlagsNone** = 0,
cudaGraphicsMapFlagsReadOnly = 1, **cudaGraphicsMapFlagsWriteDiscard** = 2 }

enum **cudaGraphicsRegisterFlags** { **cudaGraphicsRegisterFlagsNone** = 0,
cudaGraphicsRegisterFlagsReadOnly = 1, **cudaGraphicsRegisterFlagsWriteDiscard** = 2,
cudaGraphicsRegisterFlagsSurfaceLoadStore = 4,



cudaGraphicsRegisterFlagsTextureGather = 8 }
enum **cudaLimit** { **cudaLimitStackSize** = 0x00, **cudaLimitPrintfFifoSize** = 0x01, **cudaLimitMallocHeapSize** = 0x02, **cudaLimitDevRuntimeSyncDepth** = 0x03, **cudaLimitDevRuntimePendingLaunchCount** = 0x04 }
enum **cudaMemcpyKind** { **cudaMemcpyHostToHost** = 0, **cudaMemcpyHostToDevice** = 1, **cudaMemcpyDeviceToHost** = 2, **cudaMemcpyDeviceToDevice** = 3, **cudaMemcpyDefault** = 4 }
enum **cudaMemoryType** { **cudaMemoryTypeHost** = 1, **cudaMemoryTypeDevice** = 2 }
enum **cudaOutputMode** { **cudaKeyValuePair** = 0x00, **cudaCSV** = 0x01 }
enum **cudaResourceType** { **cudaResourceTypeArray** = 0x00, **cudaResourceTypeMipmappedArray** = 0x01, **cudaResourceTypeLinear** = 0x02, **cudaResourceTypePitch2D** = 0x03 }
enum **cudaResourceViewFormat** { **cudaResViewFormatNone** = 0x00, **cudaResViewFormatUnsignedChar1** = 0x01, **cudaResViewFormatUnsignedChar2** = 0x02, **cudaResViewFormatUnsignedChar4** = 0x03, **cudaResViewFormatSignedChar1** = 0x04, **cudaResViewFormatSignedChar2** = 0x05, **cudaResViewFormatSignedChar4** = 0x06, **cudaResViewFormatUnsignedShort1** = 0x07, **cudaResViewFormatUnsignedShort2** = 0x08, **cudaResViewFormatUnsignedShort4** = 0x09, **cudaResViewFormatSignedShort1** = 0x0a, **cudaResViewFormatSignedShort2** = 0x0b, **cudaResViewFormatSignedShort4** = 0x0c, **cudaResViewFormatUnsignedInt1** = 0x0d, **cudaResViewFormatUnsignedInt2** = 0x0e, **cudaResViewFormatUnsignedInt4** = 0x0f, **cudaResViewFormatSignedInt1** = 0x10, **cudaResViewFormatSignedInt2** = 0x11, **cudaResViewFormatSignedInt4** = 0x12, **cudaResViewFormatHalf1** = 0x13, **cudaResViewFormatHalf2** = 0x14, **cudaResViewFormatHalf4** = 0x15, **cudaResViewFormatFloat1** = 0x16, **cudaResViewFormatFloat2** = 0x17, **cudaResViewFormatFloat4** = 0x18, **cudaResViewFormatUnsignedBlockCompressed1** = 0x19, **cudaResViewFormatUnsignedBlockCompressed2** = 0x1a, **cudaResViewFormatUnsignedBlockCompressed3** = 0x1b, **cudaResViewFormatUnsignedBlockCompressed4** = 0x1c, **cudaResViewFormatSignedBlockCompressed4** = 0x1d, **cudaResViewFormatUnsignedBlockCompressed5** = 0x1e, **cudaResViewFormatSignedBlockCompressed5** = 0x1f, **cudaResViewFormatUnsignedBlockCompressed6H** = 0x20, **cudaResViewFormatSignedBlockCompressed6H** = 0x21, **cudaResViewFormatUnsignedBlockCompressed7** = 0x22 }
enum **cudaSharedMemConfig**
enum **cudaSurfaceBoundaryMode** { **cudaBoundaryModeZero** = 0, **cudaBoundaryModeClamp** = 1, **cudaBoundaryModeTrap** = 2 }
enum **cudaSurfaceFormatMode** { **cudaFormatModeForced** = 0, **cudaFormatModeAuto** = 1 }
enum **cudaTextureAddressMode** { **cudaAddressModeWrap** = 0, **cudaAddressModeClamp** = 1, **cudaAddressModeMirror** = 2, **cudaAddressModeBorder** = 3 }
enum **cudaTextureFilterMode** { **cudaFilterModePoint** = 0, **cudaFilterModeLinear** = 1 }
enum **cudaTextureReadMode** { **cudaReadModeElementType** = 0, **cudaReadModeNormalizedFloat** = 1 }

Define Documentation

#define CUDA_IPC_HANDLE_SIZE 64

CUDA IPC Handle Size

#define cudaArrayCubemap 0x04

Must be set in cudaMalloc3DArray to create a cubemap CUDA array

#define cudaArrayDefault 0x00

Default CUDA array allocation flag

#define cudaArrayLayered 0x01

Must be set in cudaMalloc3DArray to create a layered CUDA array

#define cudaArraySurfaceLoadStore 0x02

Must be set in cudaMallocArray or cudaMalloc3DArray in order to bind surfaces to the CUDA array



#define cudaArrayTextureGather 0x08
Must be set in cudaMallocArray or cudaMalloc3DArray in order to perform texture gather operations on the CUDA array

#define cudaDeviceBlockingSync 0x04
Device flag - Use blocking synchronization

Deprecated
This flag was deprecated as of CUDA 4.0 and replaced with **cudaDeviceScheduleBlockingSync**.

#define cudaDeviceLmemResizeToMax 0x10
Device flag - Keep local memory allocation after launch

#define cudaDeviceMapHost 0x08
Device flag - Support mapped pinned allocations

#define cudaDeviceMask 0x1f
Device flags mask

#define cudaDevicePropDontCare
Empty device properties

#define cudaDeviceScheduleAuto 0x00
Device flag - Automatic scheduling

#define cudaDeviceScheduleBlockingSync 0x04
Device flag - Use blocking synchronization

#define cudaDeviceScheduleMask 0x07
Device schedule flags mask

#define cudaDeviceScheduleSpin 0x01
Device flag - Spin default scheduling

#define cudaDeviceScheduleYield 0x02
Device flag - Yield default scheduling

#define cudaEventBlockingSync 0x01
Event uses blocking synchronization

#define cudaEventDefault 0x00
Default event flag

#define cudaEventDisableTiming 0x02
Event will not record timing data

#define cudaEventInterprocess 0x04
Event is suitable for interprocess use. cudaEventDisableTiming must be set

#define cudaHostAllocDefault 0x00
Default page-locked allocation flag

#define cudaHostAllocMapped 0x02
Map allocation into device space

#define cudaHostAllocPortable 0x01
Pinned memory accessible by all CUDA contexts

#define cudaHostAllocWriteCombined 0x04
Write-combined memory

#define cudaHostRegisterDefault 0x00
Default host memory registration flag

#define cudaHostRegisterMapped 0x02
Map registered memory into device space

#define cudaHostRegisterPortable 0x01
Pinned memory accessible by all CUDA contexts



#define cudaIpcMemLazyEnablePeerAccess 0x01
Automatically enable peer access between remote devices as needed

#define cudaMemAttachGlobal 0x01
Memory can be accessed by any stream on any device

#define cudaMemAttachHost 0x02
Memory cannot be accessed by any stream on any device

#define cudaMemAttachSingle 0x04
Memory can only be accessed by a single stream on the associated device

#define cudaPeerAccessDefault 0x00
Default peer addressing enable flag

#define cudaStreamDefault 0x00
Default stream flag

#define cudaStreamNonBlocking 0x01
Stream does not synchronize with stream 0 (the NULL stream)

Typedef Documentation

typedef struct cudaArray* cudaArray_const_t
CUDA array (as source copy argument)

typedef struct cudaArray* cudaArray_t
CUDA array

typedef enum cudaError cudaError_t
CUDA Error types

typedef struct CUevent_st* cudaEvent_t
CUDA event types

typedef struct cudaGraphicsResource* cudaGraphicsResource_t
CUDA graphics resource types

typedef struct cudaMipmappedArray* cudaMipmappedArray_const_t
CUDA mipmapped array (as source argument)

typedef struct cudaMipmappedArray* cudaMipmappedArray_t
CUDA mipmapped array

typedef enum cudaOutputMode cudaOutputMode_t
CUDA output file modes

typedef struct CUstream_st* cudaStream_t
CUDA stream

typedef unsigned long long cudaSurfaceObject_t
CUDA Surface object

typedef unsigned long long cudaTextureObject_t
CUDA texture object

typedef struct CUuuid_st cudaUUID_t
CUDA UUID types

Enumeration Type Documentation

enum cudaChannelFormatKind
Channel format kind

Enumerator:

cudaChannelFormatKindSigned
Signed channel format

cudaChannelFormatKindUnsigned
Unsigned channel format



cudaChannelFormatKindFloat
Float channel format

cudaChannelFormatKindNone
No channel format

enum cudaComputeMode
CUDA device compute modes

Enumerator:

cudaComputeModeDefault
Default compute mode (Multiple threads can use **cudaSetDevice()** with this device)

cudaComputeModeExclusive
Compute-exclusive-thread mode (Only one thread in one process will be able to use **cudaSetDevice()** with this device)

cudaComputeModeProhibited
Compute-prohibited mode (No threads can use **cudaSetDevice()** with this device)

cudaComputeModeExclusiveProcess
Compute-exclusive-process mode (Many threads in one process will be able to use **cudaSetDevice()** with this device)

enum cudaDeviceAttr
CUDA device attributes

Enumerator:

cudaDevAttrMaxThreadsPerBlock
Maximum number of threads per block

cudaDevAttrMaxBlockDimX
Maximum block dimension X

cudaDevAttrMaxBlockDimY
Maximum block dimension Y

cudaDevAttrMaxBlockDimZ
Maximum block dimension Z

cudaDevAttrMaxGridDimX
Maximum grid dimension X

cudaDevAttrMaxGridDimY
Maximum grid dimension Y

cudaDevAttrMaxGridDimZ
Maximum grid dimension Z

cudaDevAttrMaxSharedMemoryPerBlock
Maximum shared memory available per block in bytes

cudaDevAttrTotalConstantMemory
Memory available on device for __constant__ variables in a CUDA C kernel in bytes

cudaDevAttrWarpSize
Warp size in threads

cudaDevAttrMaxPitch
Maximum pitch in bytes allowed by memory copies

cudaDevAttrMaxRegistersPerBlock
Maximum number of 32-bit registers available per block

cudaDevAttrClockRate
Peak clock frequency in kilohertz

cudaDevAttrTextureAlignment
Alignment requirement for textures



cudaDevAttrGpuOverlap
Device can possibly copy memory and execute a kernel concurrently

cudaDevAttrMultiProcessorCount
Number of multiprocessors on device

cudaDevAttrKernelExecTimeout
Specifies whether there is a run time limit on kernels

cudaDevAttrIntegrated
Device is integrated with host memory

cudaDevAttrCanMapHostMemory
Device can map host memory into CUDA address space

cudaDevAttrComputeMode
Compute mode (See **cudaComputeMode** for details)

cudaDevAttrMaxTexture1DWidth
Maximum 1D texture width

cudaDevAttrMaxTexture2DWidth
Maximum 2D texture width

cudaDevAttrMaxTexture2DHeight
Maximum 2D texture height

cudaDevAttrMaxTexture3DWidth
Maximum 3D texture width

cudaDevAttrMaxTexture3DHeight
Maximum 3D texture height

cudaDevAttrMaxTexture3DDepth
Maximum 3D texture depth

cudaDevAttrMaxTexture2DLayeredWidth
Maximum 2D layered texture width

cudaDevAttrMaxTexture2DLayeredHeight
Maximum 2D layered texture height

cudaDevAttrMaxTexture2DLayeredLayers
Maximum layers in a 2D layered texture

cudaDevAttrSurfaceAlignment
Alignment requirement for surfaces

cudaDevAttrConcurrentKernels
Device can possibly execute multiple kernels concurrently

cudaDevAttrEccEnabled
Device has ECC support enabled

cudaDevAttrPciBusId
PCI bus ID of the device

cudaDevAttrPciDeviceId
PCI device ID of the device

cudaDevAttrTccDriver
Device is using TCC driver model

cudaDevAttrMemoryClockRate
Peak memory clock frequency in kilohertz

cudaDevAttrGlobalMemoryBusWidth
Global memory bus width in bits

cudaDevAttrL2CacheSize
Size of L2 cache in bytes



cudaDevAttrMaxThreadsPerMultiProcessor
Maximum resident threads per multiprocessor

cudaDevAttrAsyncEngineCount
Number of asynchronous engines

cudaDevAttrUnifiedAddressing
Device shares a unified address space with the host

cudaDevAttrMaxTexture1DLayeredWidth
Maximum 1D layered texture width

cudaDevAttrMaxTexture1DLayeredLayers
Maximum layers in a 1D layered texture

cudaDevAttrMaxTexture2DGatherWidth
Maximum 2D texture width if cudaArrayTextureGather is set

cudaDevAttrMaxTexture2DGatherHeight
Maximum 2D texture height if cudaArrayTextureGather is set

cudaDevAttrMaxTexture3DWidthAlt
Alternate maximum 3D texture width

cudaDevAttrMaxTexture3DHeightAlt
Alternate maximum 3D texture height

cudaDevAttrMaxTexture3DDepthAlt
Alternate maximum 3D texture depth

cudaDevAttrPciDomainId
PCI domain ID of the device

cudaDevAttrTexturePitchAlignment
Pitch alignment requirement for textures

cudaDevAttrMaxTextureCubemapWidth
Maximum cubemap texture width/height

cudaDevAttrMaxTextureCubemapLayeredWidth
Maximum cubemap layered texture width/height

cudaDevAttrMaxTextureCubemapLayeredLayers
Maximum layers in a cubemap layered texture

cudaDevAttrMaxSurface1DWidth
Maximum 1D surface width

cudaDevAttrMaxSurface2DWidth
Maximum 2D surface width

cudaDevAttrMaxSurface2DHeight
Maximum 2D surface height

cudaDevAttrMaxSurface3DWidth
Maximum 3D surface width

cudaDevAttrMaxSurface3DHeight
Maximum 3D surface height

cudaDevAttrMaxSurface3DDepth
Maximum 3D surface depth

cudaDevAttrMaxSurface1DLayeredWidth
Maximum 1D layered surface width

cudaDevAttrMaxSurface1DLayeredLayers
Maximum layers in a 1D layered surface

cudaDevAttrMaxSurface2DLayeredWidth
Maximum 2D layered surface width



cudaDevAttrMaxSurface2DLayeredHeight
Maximum 2D layered surface height

cudaDevAttrMaxSurface2DLayeredLayers
Maximum layers in a 2D layered surface

cudaDevAttrMaxSurfaceCubemapWidth
Maximum cubemap surface width

cudaDevAttrMaxSurfaceCubemapLayeredWidth
Maximum cubemap layered surface width

cudaDevAttrMaxSurfaceCubemapLayeredLayers
Maximum layers in a cubemap layered surface

cudaDevAttrMaxTexture1DLinearWidth
Maximum 1D linear texture width

cudaDevAttrMaxTexture2DLinearWidth
Maximum 2D linear texture width

cudaDevAttrMaxTexture2DLinearHeight
Maximum 2D linear texture height

cudaDevAttrMaxTexture2DLinearPitch
Maximum 2D linear texture pitch in bytes

cudaDevAttrMaxTexture2DMipmappedWidth
Maximum mipmapped 2D texture width

cudaDevAttrMaxTexture2DMipmappedHeight
Maximum mipmapped 2D texture height

cudaDevAttrComputeCapabilityMajor
Major compute capability version number

cudaDevAttrComputeCapabilityMinor
Minor compute capability version number

cudaDevAttrMaxTexture1DMipmappedWidth
Maximum mipmapped 1D texture width

cudaDevAttrStreamPrioritiesSupported
Device supports stream priorities

cudaDevAttrGlobalL1CacheSupported
Device supports caching globals in L1

cudaDevAttrLocalL1CacheSupported
Device supports caching locals in L1

cudaDevAttrMaxSharedMemoryPerMultiprocessor
Maximum shared memory available per multiprocessor in bytes

cudaDevAttrMaxRegistersPerMultiprocessor
Maximum number of 32-bit registers available per multiprocessor

cudaDevAttrManagedMemory
Device can allocate managed memory on this system

cudaDevAttrIsMultiGpuBoard
Device is on a multi-GPU board

cudaDevAttrMultiGpuBoardGroupID
Unique identifier for a group of devices on the same multi-GPU board

enum cudaError
CUDA error types

Enumerator:



cudaSuccess
: The API call returned with no errors. In the case of query calls, this can also mean that the operation being queried is complete (see **cudaEventQuery()** and **cudaStreamQuery()**).

cudaErrorMissingConfiguration
: The device function being invoked (usually via **cudaLaunch()**) was not previously configured via the **cudaConfigureCall()** function.

cudaErrorMemoryAllocation
: The API call failed because it was unable to allocate enough memory to perform the requested operation.

cudaErrorInitializationError
: The API call failed because the CUDA driver and runtime could not be initialized.

cudaErrorLaunchFailure
: An exception occurred on the device while executing a kernel. Common causes include dereferencing an invalid device pointer and accessing out of bounds shared memory. The device cannot be used until **cudaThreadExit()** is called. All existing device memory allocations are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorPriorLaunchFailure
: This indicated that a previous kernel launch failed. This was previously used for device emulation of kernel launches.

Deprecated
: This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorLaunchTimeout
: This indicates that the device kernel took too long to execute. This can only occur if timeouts are enabled - see the device property **kernelExecTimeoutEnabled** for more information. The device cannot be used until **cudaThreadExit()** is called. All existing device memory allocations are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorLaunchOutOfResources
: This indicates that a launch did not occur because it did not have appropriate resources. Although this error is similar to **cudaErrorInvalidConfiguration**, this error usually indicates that the user has attempted to pass too many arguments to the device kernel, or the kernel launch specifies too many threads for the kernel's register count.

cudaErrorInvalidDeviceFunction
: The requested device function does not exist or is not compiled for the proper device architecture.

cudaErrorInvalidConfiguration
: This indicates that a kernel launch is requesting resources that can never be satisfied by the current device. Requesting more shared memory per block than the device supports will trigger this error, as will requesting too many threads or blocks. See **cudaDeviceProp** for more device limitations.

cudaErrorInvalidDevice
: This indicates that the device ordinal supplied by the user does not correspond to a valid CUDA device.

cudaErrorInvalidValue
: This indicates that one or more of the parameters passed to the API call is not within an acceptable range of values.

cudaErrorInvalidPitchValue
: This indicates that one or more of the pitch-related parameters passed to the API call is not within the acceptable range for pitch.

cudaErrorInvalidSymbol
: This indicates that the symbol name/identifier passed to the API call is not a valid name or identifier.



cudaErrorMapBufferObjectFailed
: This indicates that the buffer object could not be mapped.

cudaErrorUnmapBufferObjectFailed
: This indicates that the buffer object could not be unmapped.

cudaErrorInvalidHostPointer
: This indicates that at least one host pointer passed to the API call is not a valid host pointer.

cudaErrorInvalidDevicePointer
: This indicates that at least one device pointer passed to the API call is not a valid device pointer.

cudaErrorInvalidTexture
: This indicates that the texture passed to the API call is not a valid texture.

cudaErrorInvalidTextureBinding
: This indicates that the texture binding is not valid. This occurs if you call **cudaGetTextureAlignmentOffset()** with an unbound texture.

cudaErrorInvalidChannelDescriptor
: This indicates that the channel descriptor passed to the API call is not valid. This occurs if the format is not one of the formats specified by **cudaChannelFormatKind**, or if one of the dimensions is invalid.

cudaErrorInvalidMemcpyDirection
: This indicates that the direction of the memcpy passed to the API call is not one of the types specified by **cudaMemcpyKind**.

cudaErrorAddressOfConstant
: This indicated that the user has taken the address of a constant variable, which was forbidden up until the CUDA 3.1 release.

Deprecated
: This error return is deprecated as of CUDA 3.1. Variables in constant memory may now have their address taken by the runtime via **cudaGetSymbolAddress()**.

cudaErrorTextureFetchFailed
: This indicated that a texture fetch was not able to be performed. This was previously used for device emulation of texture operations.

Deprecated
: This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorTextureNotBound
: This indicated that a texture was not bound for access. This was previously used for device emulation of texture operations.

Deprecated
: This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorSynchronizationError
: This indicated that a synchronization operation had failed. This was previously used for some device emulation functions.

Deprecated
: This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorInvalidFilterSetting
: This indicates that a non-float texture was being accessed with linear filtering. This is not supported by CUDA.

cudaErrorInvalidNormSetting
: This indicates that an attempt was made to read a non-float texture as a normalized float. This is not supported by CUDA.



cudaErrorMixedDeviceExecution
Mixing of device and device emulation code was not allowed.

Deprecated
This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorCudartUnloading
This indicates that a CUDA Runtime API call cannot be executed because it is being called during process shut down, at a point in time after CUDA driver has been unloaded.

cudaErrorUnknown
This indicates that an unknown internal error has occurred.

cudaErrorNotYetImplemented
This indicates that the API call is not yet implemented. Production releases of CUDA will never return this error.

Deprecated
This error return is deprecated as of CUDA 4.1.

cudaErrorMemoryValueTooLarge
This indicated that an emulated device pointer exceeded the 32-bit address range.

Deprecated
This error return is deprecated as of CUDA 3.1. Device emulation mode was removed with the CUDA 3.1 release.

cudaErrorInvalidResourceHandle
This indicates that a resource handle passed to the API call was not valid. Resource handles are opaque types like **cudaStream_t** and **cudaEvent_t**.

cudaErrorNotReady
This indicates that asynchronous operations issued previously have not completed yet. This result is not actually an error, but must be indicated differently than **cudaSuccess** (which indicates completion). Calls that may return this value include **cudaEventQuery()** and **cudaStreamQuery()**.

cudaErrorInsufficientDriver
This indicates that the installed NVIDIA CUDA driver is older than the CUDA runtime library. This is not a supported configuration. Users should install an updated NVIDIA display driver to allow the application to run.

cudaErrorSetOnActiveProcess
This indicates that the user has called **cudaSetValidDevices()**, **cudaSetDeviceFlags()**, **cudaD3D9SetDirect3DDevice()**, **cudaD3D10SetDirect3DDevice**, **cudaD3D11SetDirect3DDevice()**, or **cudaVDPAUSetVDPAUDevice()** after initializing the CUDA runtime by calling non-device management operations (allocating memory and launching kernels are examples of non-device management operations). This error can also be returned if using runtime/driver interoperability and there is an existing CUcontext active on the host thread.

cudaErrorInvalidSurface
This indicates that the surface passed to the API call is not a valid surface.

cudaErrorNoDevice
This indicates that no CUDA-capable devices were detected by the installed CUDA driver.

cudaErrorECCUncorrectable
This indicates that an uncorrectable ECC error was detected during execution.

cudaErrorSharedObjectSymbolNotFound
This indicates that a link to a shared object failed to resolve.

cudaErrorSharedObjectInitFailed
This indicates that initialization of a shared object failed.



cudaErrorUnsupportedLimit
: This indicates that the **cudaLimit** passed to the API call is not supported by the active device.

cudaErrorDuplicateVariableName
: This indicates that multiple global or constant variables (across separate CUDA source files in the application) share the same string name.

cudaErrorDuplicateTextureName
: This indicates that multiple textures (across separate CUDA source files in the application) share the same string name.

cudaErrorDuplicateSurfaceName
: This indicates that multiple surfaces (across separate CUDA source files in the application) share the same string name.

cudaErrorDevicesUnavailable
: This indicates that all CUDA devices are busy or unavailable at the current time. Devices are often busy/unavailable due to use of **cudaComputeModeExclusive**, **cudaComputeModeProhibited** or when long running CUDA kernels have filled up the GPU and are blocking new work from starting. They can also be unavailable due to memory constraints on a device that already has active CUDA work being performed.

cudaErrorInvalidKernelImage
: This indicates that the device kernel image is invalid.

cudaErrorNoKernelImageForDevice
: This indicates that there is no kernel image available that is suitable for the device. This can occur when a user specifies code generation options for a particular CUDA source file that do not include the corresponding device configuration.

cudaErrorIncompatibleDriverContext
: This indicates that the current context is not compatible with this the CUDA Runtime. This can only occur if you are using CUDA Runtime/Driver interoperability and have created an existing Driver context using the driver API. The Driver context may be incompatible either because the Driver context was created using an older version of the API, because the Runtime API call expects a primary driver context and the Driver context is not primary, or because the Driver context has been destroyed. Please see **Interactions** with the CUDA Driver API' for more information.

cudaErrorPeerAccessAlreadyEnabled
: This error indicates that a call to **cudaDeviceEnablePeerAccess()** is trying to re-enable peer addressing on from a context which has already had peer addressing enabled.

cudaErrorPeerAccessNotEnabled
: This error indicates that **cudaDeviceDisablePeerAccess()** is trying to disable peer addressing which has not been enabled yet via **cudaDeviceEnablePeerAccess()**.

cudaErrorDeviceAlreadyInUse
: This indicates that a call tried to access an exclusive-thread device that is already in use by a different thread.

cudaErrorProfilerDisabled
: This indicates profiler is not initialized for this run. This can happen when the application is running with external profiling tools like visual profiler.

cudaErrorProfilerNotInitialized
: **Deprecated**
This error return is deprecated as of CUDA 5.0. It is no longer an error to attempt to enable/disable the profiling via **cudaProfilerStart** or **cudaProfilerStop** without initialization.

cudaErrorProfilerAlreadyStarted
: **Deprecated**
This error return is deprecated as of CUDA 5.0. It is no longer an error to call **cudaProfilerStart()** when profiling is already enabled.



cudaErrorProfilerAlreadyStopped

Deprecated

This error return is deprecated as of CUDA 5.0. It is no longer an error to call **cudaProfilerStop()** when profiling is already disabled.

cudaErrorAssert

An assert triggered in device code during kernel execution. The device cannot be used again until **cudaThreadExit()** is called. All existing allocations are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorTooManyPeers

This error indicates that the hardware resources required to enable peer access have been exhausted for one or more of the devices passed to cudaEnablePeerAccess().

cudaErrorHostMemoryAlreadyRegistered

This error indicates that the memory range passed to **cudaHostRegister()** has already been registered.

cudaErrorHostMemoryNotRegistered

This error indicates that the pointer passed to **cudaHostUnregister()** does not correspond to any currently registered memory region.

cudaErrorOperatingSystem

This error indicates that an OS call failed.

cudaErrorPeerAccessUnsupported

This error indicates that P2P access is not supported across the given devices.

cudaErrorLaunchMaxDepthExceeded

This error indicates that a device runtime grid launch did not occur because the depth of the child grid would exceed the maximum supported number of nested grid launches.

cudaErrorLaunchFileScopedTex

This error indicates that a grid launch did not occur because the kernel uses file-scoped textures which are unsupported by the device runtime. Kernels launched via the device runtime only support textures created with the Texture Object API's.

cudaErrorLaunchFileScopedSurf

This error indicates that a grid launch did not occur because the kernel uses file-scoped surfaces which are unsupported by the device runtime. Kernels launched via the device runtime only support surfaces created with the Surface Object API's.

cudaErrorSyncDepthExceeded

This error indicates that a call to **cudaDeviceSynchronize** made from the device runtime failed because the call was made at grid depth greater than than either the default (2 levels of grids) or user specified device limit **cudaLimitDevRuntimeSyncDepth**. To be able to synchronize on launched grids at a greater depth successfully, the maximum nested depth at which **cudaDeviceSynchronize** will be called must be specified with the **cudaLimitDevRuntimeSyncDepth** limit to the **cudaDeviceSetLimit** api before the host-side launch of a kernel using the device runtime. Keep in mind that additional levels of sync depth require the runtime to reserve large amounts of device memory that cannot be used for user allocations.

cudaErrorLaunchPendingCountExceeded

This error indicates that a device runtime grid launch failed because the launch would exceed the limit **cudaLimitDevRuntimePendingLaunchCount**. For this launch to proceed successfully, **cudaDeviceSetLimit** must be called to set the **cudaLimitDevRuntimePendingLaunchCount** to be higher than the upper bound of outstanding launches that can be issued to the device runtime. Keep in mind that raising the limit of pending device runtime launches will require the runtime to reserve device memory that cannot be used for user allocations.

cudaErrorNotPermitted

This error indicates the attempted operation is not permitted.



cudaErrorNotSupported
: This error indicates the attempted operation is not supported on the current system or device.

cudaErrorHardwareStackError
: Device encountered an error in the call stack during kernel execution, possibly due to stack corruption or exceeding the stack size limit. The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorIllegalInstruction
: The device encountered an illegal instruction during kernel execution The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorMisalignedAddress
: The device encountered a load or store instruction on a memory address which is not aligned. The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorInvalidAddressSpace
: While executing a kernel, the device encountered an instruction which can only operate on memory locations in certain address spaces (global, shared, or local), but was supplied a memory address not belonging to an allowed address space. The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorInvalidPc
: The device encountered an invalid program counter. The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorIllegalAddress
: The device encountered a load or store instruction on an invalid memory address. The context cannot be used, so it must be destroyed (and a new one should be created). All existing device memory allocations from this context are invalid and must be reconstructed if the program is to continue using CUDA.

cudaErrorStartupFailure
: This indicates an internal startup failure in the CUDA runtime.

cudaErrorApiFailureBase
: Any unhandled CUDA driver error is added to this value and returned via the runtime. Production releases of CUDA should not return such errors.

Deprecated
: This error return is deprecated as of CUDA 4.1.

enum cudaFuncCache

CUDA function cache configurations

Enumerator:

cudaFuncCachePreferNone
: Default function cache configuration, no preference

cudaFuncCachePreferShared
: Prefer larger shared memory and smaller L1 cache

cudaFuncCachePreferL1
: Prefer larger L1 cache and smaller shared memory

cudaFuncCachePreferEqual
: Prefer equal size L1 cache and shared memory



enum cudaGraphicsCubeFace
CUDA graphics interop array indices for cube maps

Enumerator:

cudaGraphicsCubeFacePositiveX
Positive X face of cubemap

cudaGraphicsCubeFaceNegativeX
Negative X face of cubemap

cudaGraphicsCubeFacePositiveY
Positive Y face of cubemap

cudaGraphicsCubeFaceNegativeY
Negative Y face of cubemap

cudaGraphicsCubeFacePositiveZ
Positive Z face of cubemap

cudaGraphicsCubeFaceNegativeZ
Negative Z face of cubemap

enum cudaGraphicsMapFlags
CUDA graphics interop map flags

Enumerator:

cudaGraphicsMapFlagsNone
Default; Assume resource can be read/written

cudaGraphicsMapFlagsReadOnly
CUDA will not write to this resource

cudaGraphicsMapFlagsWriteDiscard
CUDA will only write to and will not read from this resource

enum cudaGraphicsRegisterFlags
CUDA graphics interop register flags

Enumerator:

cudaGraphicsRegisterFlagsNone
Default

cudaGraphicsRegisterFlagsReadOnly
CUDA will not write to this resource

cudaGraphicsRegisterFlagsWriteDiscard
CUDA will only write to and will not read from this resource

cudaGraphicsRegisterFlagsSurfaceLoadStore
CUDA will bind this resource to a surface reference

cudaGraphicsRegisterFlagsTextureGather
CUDA will perform texture gather operations on this resource

enum cudaLimit
CUDA Limits

Enumerator:

cudaLimitStackSize
GPU thread stack size

cudaLimitPrintfFifoSize
GPU printf/fprintf FIFO size

cudaLimitMallocHeapSize
GPU malloc heap size

cudaLimitDevRuntimeSyncDepth
GPU device runtime synchronize depth



cudaLimitDevRuntimePendingLaunchCount
GPU device runtime pending launch count

enum cudaMemcpyKind
CUDA memory copy types

Enumerator:

cudaMemcpyHostToHost
Host -> Host

cudaMemcpyHostToDevice
Host -> Device

cudaMemcpyDeviceToHost
Device -> Host

cudaMemcpyDeviceToDevice
Device -> Device

cudaMemcpyDefault
Default based unified virtual address space

enum cudaMemoryType
CUDA memory types

Enumerator:

cudaMemoryTypeHost
Host memory

cudaMemoryTypeDevice
Device memory

enum cudaOutputMode
CUDA Profiler Output modes

Enumerator:

cudaKeyValuePair
Output mode Key-Value pair format.

cudaCSV
Output mode Comma separated values format.

enum cudaResourceType
CUDA resource types

Enumerator:

cudaResourceTypeArray
Array resource

cudaResourceTypeMipmappedArray
Mipmapped array resource

cudaResourceTypeLinear
Linear resource

cudaResourceTypePitch2D
Pitch 2D resource

enum cudaResourceViewFormat
CUDA texture resource view formats

Enumerator:

cudaResViewFormatNone
No resource view format (use underlying resource format)

cudaResViewFormatUnsignedChar1
1 channel unsigned 8-bit integers



cudaResViewFormatUnsignedChar2
2 channel unsigned 8-bit integers

cudaResViewFormatUnsignedChar4
4 channel unsigned 8-bit integers

cudaResViewFormatSignedChar1
1 channel signed 8-bit integers

cudaResViewFormatSignedChar2
2 channel signed 8-bit integers

cudaResViewFormatSignedChar4
4 channel signed 8-bit integers

cudaResViewFormatUnsignedShort1
1 channel unsigned 16-bit integers

cudaResViewFormatUnsignedShort2
2 channel unsigned 16-bit integers

cudaResViewFormatUnsignedShort4
4 channel unsigned 16-bit integers

cudaResViewFormatSignedShort1
1 channel signed 16-bit integers

cudaResViewFormatSignedShort2
2 channel signed 16-bit integers

cudaResViewFormatSignedShort4
4 channel signed 16-bit integers

cudaResViewFormatUnsignedInt1
1 channel unsigned 32-bit integers

cudaResViewFormatUnsignedInt2
2 channel unsigned 32-bit integers

cudaResViewFormatUnsignedInt4
4 channel unsigned 32-bit integers

cudaResViewFormatSignedInt1
1 channel signed 32-bit integers

cudaResViewFormatSignedInt2
2 channel signed 32-bit integers

cudaResViewFormatSignedInt4
4 channel signed 32-bit integers

cudaResViewFormatHalf1
1 channel 16-bit floating point

cudaResViewFormatHalf2
2 channel 16-bit floating point

cudaResViewFormatHalf4
4 channel 16-bit floating point

cudaResViewFormatFloat1
1 channel 32-bit floating point

cudaResViewFormatFloat2
2 channel 32-bit floating point

cudaResViewFormatFloat4
4 channel 32-bit floating point

cudaResViewFormatUnsignedBlockCompressed1
Block compressed 1



cudaResViewFormatUnsignedBlockCompressed2
Block compressed 2

cudaResViewFormatUnsignedBlockCompressed3
Block compressed 3

cudaResViewFormatUnsignedBlockCompressed4
Block compressed 4 unsigned

cudaResViewFormatSignedBlockCompressed4
Block compressed 4 signed

cudaResViewFormatUnsignedBlockCompressed5
Block compressed 5 unsigned

cudaResViewFormatSignedBlockCompressed5
Block compressed 5 signed

cudaResViewFormatUnsignedBlockCompressed6H
Block compressed 6 unsigned half-float

cudaResViewFormatSignedBlockCompressed6H
Block compressed 6 signed half-float

cudaResViewFormatUnsignedBlockCompressed7
Block compressed 7

enum cudaSharedMemConfig
CUDA shared memory configuration

enum cudaSurfaceBoundaryMode
CUDA Surface boundary modes

Enumerator:

cudaBoundaryModeZero
Zero boundary mode

cudaBoundaryModeClamp
Clamp boundary mode

cudaBoundaryModeTrap
Trap boundary mode

enum cudaSurfaceFormatMode
CUDA Surface format modes

Enumerator:

cudaFormatModeForced
Forced format mode

cudaFormatModeAuto
Auto format mode

enum cudaTextureAddressMode
CUDA texture address modes

Enumerator:

cudaAddressModeWrap
Wrapping address mode

cudaAddressModeClamp
Clamp to edge address mode

cudaAddressModeMirror
Mirror address mode

cudaAddressModeBborder
Border address mode



enum cudaTextureFilterMode
CUDA texture filter modes

Enumerator:

cudaFilterModePoint
Point filter mode

cudaFilterModeLinear
Linear filter mode

enum cudaTextureReadMode
CUDA texture read modes

Enumerator:

cudaReadModeElementType
Read texture as specified element type

cudaReadModeNormalizedFloat
Read texture as normalized float

Author

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