EXTERN\_C const IID IID\_ID3D12Device;

#if defined(\_\_cplusplus) && !defined(CINTERFACE)

MIDL\_INTERFACE("189819f1-1db6-4b57-be54-1821339b85f7")

ID3D12Device : public ID3D12Object

{

public:

virtual UINT STDMETHODCALLTYPE GetNodeCount( void) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateCommandQueue(

\_In\_ const D3D12\_COMMAND\_QUEUE\_DESC \*pDesc,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppCommandQueue) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateCommandAllocator(

\_In\_ D3D12\_COMMAND\_LIST\_TYPE type,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppCommandAllocator) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateGraphicsPipelineState(

\_In\_ const D3D12\_GRAPHICS\_PIPELINE\_STATE\_DESC \*pDesc,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppPipelineState) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateComputePipelineState(

\_In\_ const D3D12\_COMPUTE\_PIPELINE\_STATE\_DESC \*pDesc,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppPipelineState) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateCommandList(

\_In\_ UINT nodeMask,

\_In\_ D3D12\_COMMAND\_LIST\_TYPE type,

\_In\_ ID3D12CommandAllocator \*pCommandAllocator,

\_In\_opt\_ ID3D12PipelineState \*pInitialState,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppCommandList) = 0;

virtual HRESULT STDMETHODCALLTYPE CheckFeatureSupport(

D3D12\_FEATURE Feature,

\_Inout\_updates\_bytes\_(FeatureSupportDataSize) void \*pFeatureSupportData,

UINT FeatureSupportDataSize) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateDescriptorHeap(

\_In\_ const D3D12\_DESCRIPTOR\_HEAP\_DESC \*pDescriptorHeapDesc,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppvHeap) = 0;

virtual UINT STDMETHODCALLTYPE GetDescriptorHandleIncrementSize(

\_In\_ D3D12\_DESCRIPTOR\_HEAP\_TYPE DescriptorHeapType) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateRootSignature(

\_In\_ UINT nodeMask,

\_In\_reads\_(blobLengthInBytes) const void \*pBlobWithRootSignature,

\_In\_ SIZE\_T blobLengthInBytes,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppvRootSignature) = 0;

virtual void STDMETHODCALLTYPE CreateConstantBufferView(

\_In\_opt\_ const D3D12\_CONSTANT\_BUFFER\_VIEW\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CreateShaderResourceView(

\_In\_opt\_ ID3D12Resource \*pResource,

\_In\_opt\_ const D3D12\_SHADER\_RESOURCE\_VIEW\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CreateUnorderedAccessView(

\_In\_opt\_ ID3D12Resource \*pResource,

\_In\_opt\_ ID3D12Resource \*pCounterResource,

\_In\_opt\_ const D3D12\_UNORDERED\_ACCESS\_VIEW\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CreateRenderTargetView(

\_In\_opt\_ ID3D12Resource \*pResource,

\_In\_opt\_ const D3D12\_RENDER\_TARGET\_VIEW\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CreateDepthStencilView(

\_In\_opt\_ ID3D12Resource \*pResource,

\_In\_opt\_ const D3D12\_DEPTH\_STENCIL\_VIEW\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CreateSampler(

\_In\_ const D3D12\_SAMPLER\_DESC \*pDesc,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptor) = 0;

virtual void STDMETHODCALLTYPE CopyDescriptors(

\_In\_ UINT NumDestDescriptorRanges,

\_In\_reads\_(NumDestDescriptorRanges) const D3D12\_CPU\_DESCRIPTOR\_HANDLE \*pDestDescriptorRangeStarts,

\_In\_reads\_opt\_(NumDestDescriptorRanges) const UINT \*pDestDescriptorRangeSizes,

\_In\_ UINT NumSrcDescriptorRanges,

\_In\_reads\_(NumSrcDescriptorRanges) const D3D12\_CPU\_DESCRIPTOR\_HANDLE \*pSrcDescriptorRangeStarts,

\_In\_reads\_opt\_(NumSrcDescriptorRanges) const UINT \*pSrcDescriptorRangeSizes,

\_In\_ D3D12\_DESCRIPTOR\_HEAP\_TYPE DescriptorHeapsType) = 0;

virtual void STDMETHODCALLTYPE CopyDescriptorsSimple(

\_In\_ UINT NumDescriptors,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE DestDescriptorRangeStart,

\_In\_ D3D12\_CPU\_DESCRIPTOR\_HANDLE SrcDescriptorRangeStart,

\_In\_ D3D12\_DESCRIPTOR\_HEAP\_TYPE DescriptorHeapsType) = 0;

virtual D3D12\_RESOURCE\_ALLOCATION\_INFO STDMETHODCALLTYPE GetResourceAllocationInfo(

\_In\_ UINT visibleMask,

\_In\_ UINT numResourceDescs,

\_In\_reads\_(numResourceDescs) const D3D12\_RESOURCE\_DESC \*pResourceDescs) = 0;

virtual D3D12\_HEAP\_PROPERTIES STDMETHODCALLTYPE GetCustomHeapProperties(

\_In\_ UINT nodeMask,

D3D12\_HEAP\_TYPE heapType) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateCommittedResource(

\_In\_ const D3D12\_HEAP\_PROPERTIES \*pHeapProperties,

D3D12\_HEAP\_FLAGS HeapFlags,

\_In\_ const D3D12\_RESOURCE\_DESC \*pDesc,

D3D12\_RESOURCE\_STATES InitialResourceState,

\_In\_opt\_ const D3D12\_CLEAR\_VALUE \*pOptimizedClearValue,

REFIID riidResource,

\_COM\_Outptr\_opt\_ void \*\*ppvResource) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateHeap(

\_In\_ const D3D12\_HEAP\_DESC \*pDesc,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvHeap) = 0;

virtual HRESULT STDMETHODCALLTYPE CreatePlacedResource(

\_In\_ ID3D12Heap \*pHeap,

UINT64 HeapOffset,

\_In\_ const D3D12\_RESOURCE\_DESC \*pDesc,

D3D12\_RESOURCE\_STATES InitialState,

\_In\_opt\_ const D3D12\_CLEAR\_VALUE \*pOptimizedClearValue,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvResource) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateReservedResource(

\_In\_ const D3D12\_RESOURCE\_DESC \*pDesc,

D3D12\_RESOURCE\_STATES InitialState,

\_In\_opt\_ const D3D12\_CLEAR\_VALUE \*pOptimizedClearValue,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvResource) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateSharedHandle(

\_In\_ ID3D12DeviceChild \*pObject,

\_In\_opt\_ const SECURITY\_ATTRIBUTES \*pAttributes,

DWORD Access,

\_In\_opt\_ LPCWSTR Name,

\_Out\_ HANDLE \*pHandle) = 0;

virtual HRESULT STDMETHODCALLTYPE OpenSharedHandle(

\_In\_ HANDLE NTHandle,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvObj) = 0;

virtual HRESULT STDMETHODCALLTYPE OpenSharedHandleByName(

\_In\_ LPCWSTR Name,

DWORD Access,

/\* [annotation][out] \*/

\_Out\_ HANDLE \*pNTHandle) = 0;

virtual HRESULT STDMETHODCALLTYPE MakeResident(

UINT NumObjects,

\_In\_reads\_(NumObjects) ID3D12Pageable \*const \*ppObjects) = 0;

virtual HRESULT STDMETHODCALLTYPE Evict(

UINT NumObjects,

\_In\_reads\_(NumObjects) ID3D12Pageable \*const \*ppObjects) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateFence(

UINT64 InitialValue,

D3D12\_FENCE\_FLAGS Flags,

REFIID riid,

\_COM\_Outptr\_ void \*\*ppFence) = 0;

virtual HRESULT STDMETHODCALLTYPE GetDeviceRemovedReason( void) = 0;

virtual void STDMETHODCALLTYPE GetCopyableFootprints(

\_In\_ const D3D12\_RESOURCE\_DESC \*pResourceDesc,

\_In\_range\_(0,D3D12\_REQ\_SUBRESOURCES) UINT FirstSubresource,

\_In\_range\_(0,D3D12\_REQ\_SUBRESOURCES-FirstSubresource) UINT NumSubresources,

UINT64 BaseOffset,

\_Out\_writes\_opt\_(NumSubresources) D3D12\_PLACED\_SUBRESOURCE\_FOOTPRINT \*pLayouts,

\_Out\_writes\_opt\_(NumSubresources) UINT \*pNumRows,

\_Out\_writes\_opt\_(NumSubresources) UINT64 \*pRowSizeInBytes,

\_Out\_opt\_ UINT64 \*pTotalBytes) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateQueryHeap(

\_In\_ const D3D12\_QUERY\_HEAP\_DESC \*pDesc,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvHeap) = 0;

virtual HRESULT STDMETHODCALLTYPE SetStablePowerState(

BOOL Enable) = 0;

virtual HRESULT STDMETHODCALLTYPE CreateCommandSignature(

\_In\_ const D3D12\_COMMAND\_SIGNATURE\_DESC \*pDesc,

\_In\_opt\_ ID3D12RootSignature \*pRootSignature,

REFIID riid,

\_COM\_Outptr\_opt\_ void \*\*ppvCommandSignature) = 0;

virtual void STDMETHODCALLTYPE GetResourceTiling(

\_In\_ ID3D12Resource \*pTiledResource,

\_Out\_opt\_ UINT \*pNumTilesForEntireResource,

\_Out\_opt\_ D3D12\_PACKED\_MIP\_INFO \*pPackedMipDesc,

\_Out\_opt\_ D3D12\_TILE\_SHAPE \*pStandardTileShapeForNonPackedMips,

\_Inout\_opt\_ UINT \*pNumSubresourceTilings,

\_In\_ UINT FirstSubresourceTilingToGet,

\_Out\_writes\_(\*pNumSubresourceTilings) D3D12\_SUBRESOURCE\_TILING \*pSubresourceTilingsForNonPackedMips) = 0;

virtual LUID STDMETHODCALLTYPE GetAdapterLuid( void) = 0;

};