Windows PowerShell Get-Help on Cmdlet 'Get-NetAdapterSriov'

PS:\>Get-HELP Get-NetAdapterSriov -Full

NAME

Get-NetAdapterSriov

SYNOPSIS

Gets the SR-IOV properties of the network adapter.

SYNTAX

Get-NetAdapterSriov [-AsJob] [-CimSession <CimSession[]>] [-IncludeHidden] -InterfaceDescription <String[]> [-ThrottleLimit <Int32>] [<CommonParameters>]

Get-NetAdapterSriov [[-Name] <String[]>] [-AsJob] [-CimSession <CimSession[]>] [-IncludeHidden] [-ThrottleLimit <Int32>] [<CommonParameters>]

DESCRIPTION

The Get-NetAdapterSriov cmdlet gets the Single-Root I/O Virtualization (SR-IOV) properties of network adapters that support SR-IOV. SR-IOV enables network traffic to

by-pass the software switch layer of the Hyper-V virtualization stack. As a result, the I/O overhead in the software emulation layer is diminished and can achieve

network performance that is nearly the same performance as in non-virtualized environments. Run this cmdlet to display how the hardware is set to support SR-IOV. This

cmdlet will display the properties of the network adapter that relate to SR-IOV, such as the number of ports, and virtual functions (VFs). The property SriovSupport

indicates potential reasons for SR-IOV not functioning properly.

The possible values for SriovSupport include the following:

- Unknown: Ensure that the computer has hardware support for SR-IOV and that I/O virtualization is enabled in the BIOS. Also ensure that the computer is running

Windows Serverr 2012 and later. - Supported: SR-IOV is supported and should be functioning properly.

- MissingAcs: SR-IOV cannot be used on this network adapter as the PCI Express hardware does not support Access Control Services (ACS).

This device may work in an alternate PCI Express slot. Contact your hardware vendor for further information. - MissingPfDriver: SR-IOV cannot be used on this network

adapter as the device or device driver does not support SR-IOV. If the network adapter supports SR-IOV, contact the hardware vendor for an updated driver. -

NoBusResources: SR-IOV cannot be used on this network adapter as there are not enough PCI Express bus numbers available.

- NoIoMmuSupport: SR-IOV cannot be used on this computer because of one or more of the following reasons.

- - The processor does not support second level address translation (SLAT).

For processors manufactured by Intel CorporationT (IntelT), this feature might be referred to as Extended Page Tables (EPT). For processors manufactured by Advanced

Micro DevicesT (AMDT), this feature might be referred to as Rapid Virtualization Indexing (RVI) or Nested Page Tables (NPT). - - The chipset on the computer does not

do Interrupt and/or DMA remapping, without which SR-IOV cannot be supported.

- - This computer has been configured to disable the use of I/O remapping hardware.

- NoVfBarSpace: SR-IOV cannot be used on this network adapter as there are not enough PCI Express BAR resources available.

This may be due to incorrect or partial configuration in the computer BIOS for Interrupt and DMA remapping. These settings may be referred to as SR-IOV or

input/output memory management unit (IOMMU) support. If the computer BIOS is correctly configured, this device may work in an alternate PCI Express slot. Contact the

original equipment manufacturer of the computer for further information. - NoOscSupport: To use SR-IOV on this computer, the computer BIOS must be updated to allow

Windows Server 2012 and later to control PCI Express using `_OSC HandOff`. Contact the original equipment manufacturer of the computer for an update.

PARAMETERS

-AsJob [<SwitchParameter>]

Runs the cmdlet as a background job. Use this parameter to run commands that take a long time to complete. The cmdlet immediately returns an object that

represents the job and then displays the command prompt. You can continue to work in the session while the job completes. To manage the job, use the `*-Job`

cmdlets. To get the job results, use the Receive-Job (https://go.microsoft.com/fwlink/?LinkID=113372)cmdlet. For more information about Windows PowerShellr

background jobs, see about_Jobs (https://go.microsoft.com/fwlink/?LinkID=113251).

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-CimSession <CimSession[]>

Runs the cmdlet in a remote session or on a remote computer. Enter a computer name or a session object, such as the output of a New-CimSession

(https://go.microsoft.com/fwlink/p/?LinkId=227967) or [Get-CimSession](https://go.microsoft.com/fwlink/p/?LinkId=227966)cmdlet. The default is the current session on the local computer.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-IncludeHidden [<SwitchParameter>]

Indicates that the cmdlet includes both visible and hidden network adapters in the operation. If a wildcard character is used to identify a network adapter, then the wildcard character is matched against both hidden and visible adapters.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-InterfaceDescription <String[]>

Specifies an array of network adapter interface descriptions. For a physical network adapter this is typically the name of the vendor of the network adapter followed by a part number and description, such as `Contoso 12345 Gigabit Network Device`.

Required? true
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

-Name <String[]>

Specifies an array network adapter names. The name of the network adapter from which this cmdlet gets the SR-IOV properties.

Required? false

Position? 0

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-ThrottleLimit <Int32>

Specifies the maximum number of concurrent operations that can be established to run the cmdlet. If this parameter is omitted or a value of `0` is entered, then

Windows PowerShellr calculates an optimum throttle limit for the cmdlet based on the number of CIM cmdlets that are running on the computer. The throttle limit

applies only to the current cmdlet, not to the session or to the computer.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug,

ErrorAction, ErrorVariable, WarningAction, WarningVariable,

OutBuffer, PipelineVariable, and OutVariable. For more information, see

about_CommonParameters (https:/go.microsoft.com/fwlink/?LinkID=113216).

INPUTS

None

OUTPUTS

Microsoft.Management.Infrastructure.CimInstance#ROOT/StandardCimv2/MSFT_NetAdapterSriovSettingData

The `Microsoft.Management.Infrastructure.CimInstance` object is a wrapper class that displays Windows Management Instrumentation (WMI) objects. The path after the

pound sign (`#`) provides the namespace and class name for the underlying WMI object.

NOTES

Example 1: Display SR-IOV properties for all SR-IOV-capable network adapters

PS C:\> Get-NetAdapterSriov -Name "*"

This command displays the SR-IOV properties for all SR-IOV-capable network adapters.

Example 2: Display SR-IOV properties for the specified network adapter

PS C:\> Get-NetAdapterSriov -Name "Ethernet 2"

This command displays the SR-IOV properties for network adapter named Ethernet 2.

Example 3: Display SR-IOV properties for the network adapter with the specified interface description

PS C:\> Get-NetAdapterSriov -InterfaceDescription "Contoso 12345 Gigabit Network Device"

This command displays the SR-IOV properties for the network adapter with the interface description named Contoso 12345 Gigabit Network Device.

Example 4: Get all SR-IOV properties for all network adapters with SR-IOV enabled

PS C:\> Get-NetAdapterSriov -Name "*" | Where-Object -FilterScript { $_.Enabled -Eq $true }

This command gets the SR-IOV properties for the network adapter with SR-IOV enabled.

RELATED LINKS

Online Version: https://learn.microsoft.com/powershell/module/netadapter/get-netadaptersriov?view=windowsserver2022-ps&wt.mc_id=ps-gethelp

Disable-NetAdapterSriov

Enable-NetAdapterSriov

Get-NetAdapterSriovVf

Set-NetAdapterSriov