What's New in Virtual GPU Software R510 for All Supported Hypervisors

Release Notes

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Chapter 1. Updates by Release

Updates for each release in this release family of NVIDIA vGPU software may include new features, introduction of hardware and software support, and withdrawal of hardware and software support.

1.1. Updates in Release 14.4

New Features in Release 14.4

- Security updates - see *Security Bulletin: NVIDIA GPU Display Driver - November 2022*, which is updated shortly after the release date of this software and is listed on the NVIDIA Product Security page

1.2. Updates in Release 14.3

New Features in Release 14.3

- Security updates - see *Security Bulletin: NVIDIA GPU Display Driver - November 2022*, which is posted shortly after the release date of this software and is listed on the NVIDIA Product Security page
- Support for non-transparent local proxy servers when NVIDIA vGPU software is served licenses by a Cloud License Service (CLS) instance
- Miscellaneous bug fixes

Hardware and Software Support Introduced in Release 14.3

- Support for Red Hat Enterprise Linux with KVM hypervisor 8.7
- Support for Red Hat Enterprise Linux 8.7 as a guest OS
- Support for Citrix Virtual Apps and Desktops version 7 2209
- Support for VMware Horizon 2209 (8.7)

1.3. Updates in Release 14.2

New Features in Release 14.2

- Security updates - see *Security Bulletin: NVIDIA GPU Display Driver - August 2022*, which is posted shortly after the release date of this software and is listed on the NVIDIA Product Security page
- Miscellaneous bug fixes

Hardware and Software Support Introduced in Release 14.2

- Support for Citrix Virtual Apps and Desktops version 7 2206
- Support for Ubuntu 22.04 LTS on VMware vSphere Hypervisor (ESXi)
- Support for VMware Horizon 2206 (8.6)

Feature Support Withdrawn in Release 14.2

- Citrix XenServer 7.1 is no longer supported.
- All versions of Microsoft Windows Server 2016 with Hyper-V role are no longer supported as a hypervisor.
- VMware vSphere Hypervisor (ESXi) 6.7 and 6.5 are no longer supported.
- All versions of Microsoft Windows Server 2016 are no longer supported as a guest OS.

1.4. Updates in Release 14.1

New Features in Release 14.1

- Support for GPUDirect® technology on the Mellanox Connect-X® 7 SmartNIC network interface card
- Security updates - see *Security Bulletin: NVIDIA GPU Display Driver - May 2022*, which is posted shortly after the release date of this software and is listed on the NVIDIA Product Security page
- Miscellaneous bug fixes

Hardware and Software Support Introduced in Release 14.1

- Support for Red Hat Enterprise Linux with KVM hypervisor 9.0 and 8.6
- Support for Ubuntu 22.04 LTS as a hypervisor
- Support for Red Hat Enterprise Linux 9.0 as a guest OS on the Red Hat Enterprise Linux with KVM hypervisor

- Support for Red Hat Enterprise Linux 8.6 as a guest OS on the Citrix Hypervisor, Microsoft Windows Server, Red Hat Enterprise Linux with KVM, and VMware vSphere hypervisors
- Support for Ubuntu 22.04 LTS as a guest OS on the Ubuntu hypervisor
- Support for Citrix Virtual Apps and Desktops version 7 2203
- Support for VMware Horizon 2203 (8.5)

Feature Support Withdrawn in Release 14.1

- Red Hat Enterprise Linux with KVM hypervisor 8.5 is no longer supported.
- Red Hat Enterprise Linux 8.5 and 8.2 are no longer supported as a guest OS.

1.5. Updates in Release 14.0

New Features in Release 14.0

- Support for NVIDIA GPUDirect® Storage technology on the generic Linux with KVM, Red Hat Enterprise Linux with KVM, and Ubuntu hypervisors
- Support for GPUDirect technology on all C-series vGPUs on GPUs that support SR-IOV on the Linux with KVM, Red Hat Enterprise Linux with KVM, and Ubuntu hypervisors
- Support for a mixture of time-sliced vGPUs of the same frame buffer size on the same GPU on the Linux with KVM and Red Hat Enterprise Linux with KVM hypervisors
- Support for Tesla Compute Cluster (TCC) mode for Q-series vGPUs on Windows guest VMs on the Citrix Hypervisor, Red Hat Enterprise Linux with KVM, and VMware vSphere hypervisors
- Support for GPU System Processor (GSP) in GPU pass through and bare-metal configurations on Linux with vCS

  Note: If you are using a product other than vCS, you must disable GSP as explained in *Virtual GPU Software User Guide*.

- Enhanced NVIDIA CUDA Toolkit support:
  - NVIDIA CUDA Toolkit profilers can be enabled when unified memory is enabled.
  - Nsight Systems GPU context switch trace is supported.
- Enhancements to the NVIDIA Management Library (NVML) to determine whether a vGPU type supports GPUDirect technology and peer-to-peer CUDA transfers over NVLink
- Addition of RPM and Debian packages for the NVIDIA vGPU software graphics drivers for Linux
- Security updates - see *Security Bulletin: NVIDIA GPU Display Driver - February 2022*, which is posted shortly after the release date of this software and is listed on the NVIDIA Product Security page

- Miscellaneous bug fixes

Hardware and Software Support Introduced in Release 14.0

- Support for the following GPUs:
  - NVIDIA A2
  - NVIDIA A30X
  - NVIDIA A100X
  - NVIDIA RTX A5500
- Support for Red Hat Enterprise Linux with KVM hypervisor 8.5
- Support for Red Hat Enterprise Linux 8.5 as a guest OS on the Citrix Hypervisor, Microsoft Windows Server, Red Hat Enterprise Linux with KVM, and VMware vSphere hypervisors
- Support for Red Hat Enterprise Linux 8.4 and 8.2 as a guest OS on Microsoft Windows Server
- Support for Debian 10 as a guest OS on VMware vSphere
- Support for Ubuntu 20.04 LTS as a guest OS on Microsoft Windows Server
- Support for Citrix Virtual Apps and Desktops version 7 2112
- Support for VMware Horizon 2111 (8.4)

Feature Support Withdrawn in Release 14.0

- Red Hat Enterprise Linux with KVM hypervisor 8.1, 7.8, and 7.7 are no longer supported.
- Red Hat Enterprise Linux 8.1 is no longer supported as a guest OS.
- Red Hat Enterprise Linux 7.8 and 7.7 are no longer supported as a guest OS.
- Windows Server 2012 R2 is no longer supported as a guest OS.

Features Deprecated in Release 14.0

The following table lists features that are deprecated in this release of NVIDIA vGPU software. Although the features remain available in this release, they might be withdrawn in a future release. In preparation for the possible removal of these features, use the preferred alternative listed in the table.

Deprecated Feature	Preferred Alternative	Additional Information
Legacy NVIDIA vGPU software license server	NVIDIA License System	NVIDIA Virtual GPU Software License Server End of Life Notice

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