VIRTUAL GPU LICENSE SERVER VERSION 5.1.0 AND 5.0.0

Release Notes

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Chapter 1.
RELEASE NOTES

These *Release Notes* summarize current status, information on supported platforms, and known issues with NVIDIA vGPU software License Server, version 5.1.0 and 5.0.0.

> 💬 If either of the following conditions is met, you must uninstall any previous version of NVIDIA vGPU software License Server before installing this release:
>
> ▸ You are using a Windows platform. For details, see Upgrade on Windows doesn't upgrade Apache Tomcat.
> ▸ The version of your current license server software is 2015.12 or earlier. For details, see Upgrade installation does not operate correctly.
>
> Installed NVIDIA vGPU software licenses are **not** retained across an uninstallation followed by reinstallation. You must reinstall your licenses after reinstalling the license server software.

All releases of the License Server are compatible with **all** releases of NVIDIA vGPU software.

1.1. Supported Platforms

1.1.1. Operating Systems Supported

This release of NVIDIA vGPU software License Server has been tested on several releases of the Windows and Linux operating systems.

> 💬 Installation in console mode and installation in silent mode on Windows or Linux are **not** supported. The license server installer must be run in a graphical desktop environment.

1.1.1.1. Windows Operating Systems Supported

▸ Windows 10 64-bit
▸ Windows Server 2016

▶ Windows Server 2012 R2

💬 On Windows, the license server supports **only** the English locale.

1.1.1.2. Linux Operating Systems Supported

▶ Red Hat Enterprise Linux 7.3 64-bit
▶ CentOS 7.3 64-bit

1.1.2. Java Runtime Environment Requirements

NVIDIA vGPU software License Server requires one of the following Java Runtime Environment (JRE) versions:

▶ Oracle Java SE JRE version 1.8 **only**
▶ OpenJDK JRE version 1.8 **only**

For information about the licenses under which these JRE releases are provided, see Oracle Java SE Licensing FAQ.

JRE should be installed before the License Server installer package is run, as described in the *Virtual GPU License Server User Guide*.

On Windows 32-bit and 64-bit platforms, NVIDIA vGPU software License Server requires a 32-bit JRE.

1.1.3. Since 5.1.0.23376826: .NET Framework Requirements

On Windows platforms, NVIDIA vGPU software License Server requires .NET Framework 4.5 or later.

1.1.4. Apache Tomcat Server Requirements

The License Server's management interface requires Apache Tomcat version 7x or 8x. An Apache Tomcat package is included with the License Server installer package for Windows. For Linux, Tomcat should be installed before running the License Server installer package, as described in *Virtual GPU License Server User Guide*.

1.1.5. Web Browser Requirements

The license server's web browser–based management interface supports the following browsers:

▶ Mozilla Firefox versions 17 and later
▶ Google Chrome versions 27 and later
▶ Microsoft Internet Explorer version 9 and later

1.2. Changes in this Release

Changes in Release 5.1.0

▸ Miscellaneous bug fixes
▸ Support for the OpenJDK Java Runtime Environment

Changes in Release 5.0.0

▸ High availability support for the License Server
▸ Support for the OpenJDK Java Runtime Environment

1.3. Security Updates

Security Updates in Release 5.1.0

▸ Inclusion of an updated Apache Tomcat version (8.5.24) with the License Server installer package for Windows

This version contains security updates for the following CVEs that affect Apache Tomcat version 8.5.15, which was previously included with the License Server installer package for Windows:

  ▸ CVE-2017-7675
  ▸ CVE-2017-7674
  ▸ CVE-2017-12615
  ▸ CVE-2017-12617

▸ Update of the Apache Struts library included in the license server to version to 2.3.34

This version contains security updates for the following CVEs:

  ▸ CVE-2017-9804
  ▸ CVE-2017-7672
  ▸ CVE-2017-9805

Chapter 2.
RESOLVED ISSUES

Only resolved issues that have been previously noted as known issues or had a noticeable user impact are listed. The summary and description for each resolved issue indicate the effect of the issue on the NVIDIA vGPU software license server **before the issue was resolved**.

Issues Resolved in Release 5.1.0

Bug ID	Summary and Description
2061967	**License server log files are not in the default location** In some configurations, even after the license server is installed with default options, license server log files are not in the default location.

Issues Resolved in Release 5.0.0

No resolved issues are reported in this release.

Chapter 3.
KNOWN ISSUES

3.1. Apache Tomcat Servlet/JSP Container Default Files Vulnerability (Nessus ID: 12085)

Description

The License Server requires an Apache Tomcat server. On Windows, Apache Tomcat is included with the License Server installer package. On Linux, Apache Tomcat must be installed separately.

By default, files such as documentation, the default index page, example JSP files, and example servlets are installed on the host where the Apache Tomcat software is installed. These files may help an attacker uncover information about the Apache Tomcat installation or the host where the Apache Tomcat software is installed. Furthermore, the files may themselves contain vulnerabilities that might allow attacks such as cross-site scripting attacks.

Mitigations

▸ Review the files and delete the files that are not needed.

▸ Provide a custom error page for common HTTP errors such as error 404 or 500.

See Also

▸ Securing Tomcat from the Open Web Application Security Project (OWASP)

▸ How do I get a customized error page? FAQ on the Tomcat wiki

3.2. Deleting a license reservation deletes the entire reservation group

Description

When the management UI is used to delete a single entry from the **Reservation** page, all entries on the page are deleted because the management UI supports operations only on reservation groups, not individual reservations, specifically:

▶ Deleting an existing reservation group. Deleting individual reservations within a reservation group is **not** supported.

▶ Adding reservations to a new reservation group. Adding reservations to an existing reservation group is **not** supported.

Workaround

To add or delete reservations in an existing group:

1. Delete the existing group.
2. Re-create the group with the set of reservations that you want:

   ▶ Include the existing reservations that you want to keep and any new reservations that you want to add.

   ▶ Exclude any reservations that you want to remove.

   You can re-create the group by using the **Add Reservation** page or by importing reservations from a JSON file. For instructions, see *Virtual GPU License Server User Guide*.

> If you are importing reservations from a JSON file, ensure that the `name` attribute of each array of reservations is set to a non-null value. Although the `name` attribute is optional, any imported reservation groups for which the `name` attribute is not set cannot be deleted through the management UI.

Status

Not a bug

Ref. #
200418787

3.3. Sudden shutdown of the license server can cause database corruption

Description

If the license server is shut down suddenly and cannot be shut down cleanly, the trusted storage database may become corrupted. If the database is corrupted, it cannot be read and the `flexnetls-nvidia` service cannot start.

When the `flexnetls-nvidia` service cannot start because the database is corrupted, messages similar to the following examples for each platform are written to the license server log file:

▶ On Windows:

```
org.h2.message.DbException: General error:
"java.lang.IllegalStateException: File corrupted in chunk ${chunk_number},
expected page length ${page_length}, got ${actual_page_length}" [50000-193]

org.h2.message.DbException: General error:
"java.lang.IllegalStateException: Reading from
nio:C:/Windows/ServiceProfiles/NetworkService/flexnetls/nvidia/
flexnetls_licenses.mv.db failed;
file length ${file_length} read length ${read_length} at ${index}"
```

▶ On Linux:

```
org.h2.message.DbException: General error:
"java.lang.IllegalStateException: Reading from
nio:/var/opt/flexnetls/nvidia/flexnetls_licenses.mv.db failed;
file length ${file_length} read length ${read_length} at ${index}"
```

On Windows, event 6008 may be written to the event viewer log indicating that the license server was shut down abruptly and could not be shut down cleanly.

Workaround

5.1.0: Delete the trusted storage files, start the `flexnetls-nvidia` service, and reinstall your licenses. For instructions for performing these tasks, see *Virtual GPU License Server User Guide*.

Status

Not an NVIDIA bug

Ref. #

2104881

3.4. The license server fails to start because the database connection is closed

Description

The license server may fail to start because the database connection is closed. When this error occurs, the following error messages are written to the license server log file:

```
org.h2.message.DbException: General error:
 "java.util.ConcurrentModificationException" [50000-196]

org.h2.jdbc.JdbcSQLException: The database has been closed [90098-196]

Internal Exception: org.h2.jdbc.JdbcSQLException: General error:
"java.lang.IllegalStateException: Transaction is closed [1.4.196/4]"
  [50000-196]
```

A side effect of this error is that these error messages are frequently written to the log file, which may cause the log files to exhaust the disk space on the server.

Status

Resolved in release 2018.10

Ref. #

200400065

3.5. The license server management UI shows an unusable option to generate a file for the NVIDIA Software Licensing Center

Description

The **License Management** section on the license server's management interface shows the option **Generate license request file for processing by the NVIDIA Licensing Portal**. This option cannot be used because the NVIDIA Software Licensing Center does not provide an option for uploading such a request file.

Status

Resolved in release 2018.06.

Ref. #

200410287

3.6. 5.0.0.22575570: License server log files are not in the default location

Description

In some configurations, even after the license server is installed with default options, license server log files are not in the default location.

For example, if the license server service is installed under the `LocalService` account instead of the `NetworkService` account, the license server log files might be located at `%SystemDrive%:\Windows\SysWOW64\config\systemprofile\flexnetls`.
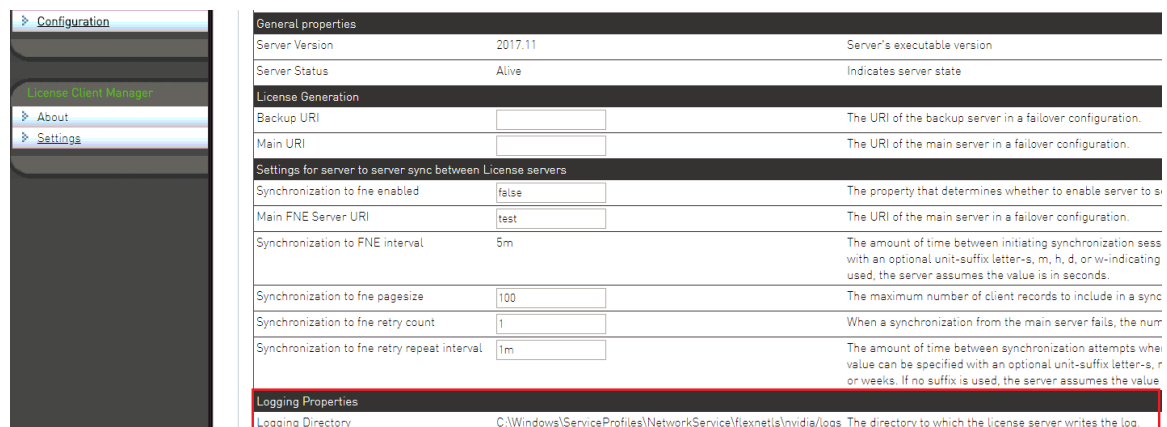
Version

5.0.0.22575570

Workaround

Use the license server management interface to find the location of the log files: Select **Configuration** and click the **Properties** tab.

The location of the log files is displayed on the **License Server Configuration** page in the **Logging Directory** field.

Status

Resolved in release 5.1.0.23376826.

Ref. #

2061967

3.7. Since 5.1.0.23376826: The license server management UI cannot display more than 20 license reservation groups

Description

When more than 20 license reservation groups are added to the license server, the management UI displays only the first 20 groups. Groups that are not displayed cannot be found through search because the UI provides no option to search for license reservations. If an existing group is deleted, one of the previously hidden groups is listed in the UI. Groups that are not listed in the UI function normally.

This issue occurs regardless of whether the groups are added through the UI or imported from a JSON file. When groups are imported from a JSON file, only one record in the file is displayed.

Version

5.1.0.23376826

Workaround

For reservations entered through the management UI, use fewer than 20 reservation groups.

For reservations exported to and imported from a JSON file, use only one reservation group.

Status

Open

Ref. #

▸ 200397688
▸ 200403638

3.8. License server MAC address cannot be changed in the management interface

Description

The management interface of the license server enables the MAC address of the license server to be changed and the change to be saved. However, when the license server host is restarted, the MAC address reverts to its previous setting.

Workaround

Change the MAC address by editing the license server settings file, updating the license server settings from the edited file, and restarting the license server.

Before attempting this workaround, ensure that the `JAVA_HOME` or `JRE_HOME` environment variable is set to the directory where the Java runtime environment is installed on the license server host.

This workaround requires system administrator privileges.

On Windows:

1. Open the file `license-server-installation-folder\server\flexnetls.settings` in a plain text editor such as WordPad.

    license-server-installation-folder
    The folder in which the license server software is installed. The default license server installation folder is `%SystemDrive%:\Program Files (x86)\NVIDIA\License Server`.

2. Uncomment the `#ACTIVE_HOSTID=` line and append the MAC address to the line followed `by /Ethernet`.

    For example:

    ```
    ...
    ACTIVE_HOSTID=4E7DBF3A250A/Ethernet
    ...
    ```

3. Save your changes and exit the editor.

4. As an Administrator user, open a **Command Prompt** window and change to the `license-server-installation-folder\server` folder.

    For example:

    ```
    C:\>cd C:\Program Files (x86)\NVIDIA\License Server\server
    C:\Program Files (x86)\NVIDIA\License Server\server>
    ```

5. In the **Command Prompt** window, run the command to update the license server settings from the edited file.

    ```
    C:\Program Files (x86)\NVIDIA\License Server\server>flexnetls.bat -update
    ```

```
Updating service FNLS-nvidia
Service FNLS-nvidia successfully stopped
Uninstalling service FNLS-nvidia
Installing service FNLS-nvidia

C:\Program Files (x86)\NVIDIA\License Server\server>
```

6. In the **Command Prompt** window, run the command to restart the license server.

```
C:\Program Files (x86)\NVIDIA\License Server\server>flexnetls.bat -start
Service FNLS-nvidia successfully started

C:\Program Files (x86)\NVIDIA\License Server\server>
```

On Linux:

1. As root, open the file `/opt/flexnetls/nvidia/local-configuration.yaml` in a plain text editor.

2. Uncomment the `#ACTIVE_HOSTID=` line and append the MAC address to the line followed `by /Ethernet`.

    For example:

    ```
    ...
    ACTIVE_HOSTID=4E7DBF3A250A/Ethernet
    ...
    ```

3. Save your changes and exit the editor.

4. As root, restart the `flexnetls-nvidia` service.

    ```
    # sudo systemctl restart flexnetls-nvidia.service
    ```

Status

Open

Ref. #

200397697

3.9. Since 5.1.0.23376826: After restart, the log level reverts to its default level

Description

After the license server is restarted, the log level reverts to its default level of **INFO**, even if a different level has been set.

Workaround

Set the license server log level to the level that you require as explained in *Virtual GPU License Server User Guide*.

Status

Open

3.10. The logging threshold can only be uppercase

Description

The logging threshold under **Logging properties** on the **Configuration** page accepts input only in uppercase. When a valid logging threshold value in lowercase is entered, an error message similar to the following message is displayed:

```
The value "error" for "Logging Threshold" is not valid. [Logging Threshold,
 error]
```

Workaround

Enter logging threshold values in all uppercase.

Status

Not an NVIDIA bug

Ref. #

200334630

3.11. License Server upgrade fails

Description

An attempt to upgrade from License Server version 2015.12-0001 to the current version fails with the following error:

```
One or more newer versions of the product are installed. An update is not
 available.
```

Version

5.1.0 and 5.0.0

Workaround

1. When the error dialog box opens, click **Abort** to abandon the upgrade.
2. Cleanly uninstall License Server version 2015.12-0001.
3. Install the current version of the License Server software.

Status

Open

Ref. #

200301811

3.12. Log files can exhaust local disk space

Description

A long-running license server may fail because the license server log files `flexnetls.log` and `access.log` have exhausted the disk space on the server. Although the license server rotates log files by opening a new log file each day, it does not automatically delete old log files.

Workaround

Delete old log files when they are no longer required. On Linux, you can use a `cron` job to delete files that are more than a specific number of days old.

Status

Open

Ref. #

1932568

3.13. Client in time zone ahead of license server may fail to check out a license close to its expiry time

Description

A client located in a time zone that is ahead of the license server's time zone may fail to check out a license, if the license expiration time has passed in the client's time zone.

Platform

All

Workaround

Locate the license server in a time zone proximate to the clients it will serve.

Status

Open

Ref. #

1685774

3.14. License server fails to start because of an IP address change

Description

If the IP address of the license server changes, the license server fails to start. The license server management interface reports a connection error to the FNE server:
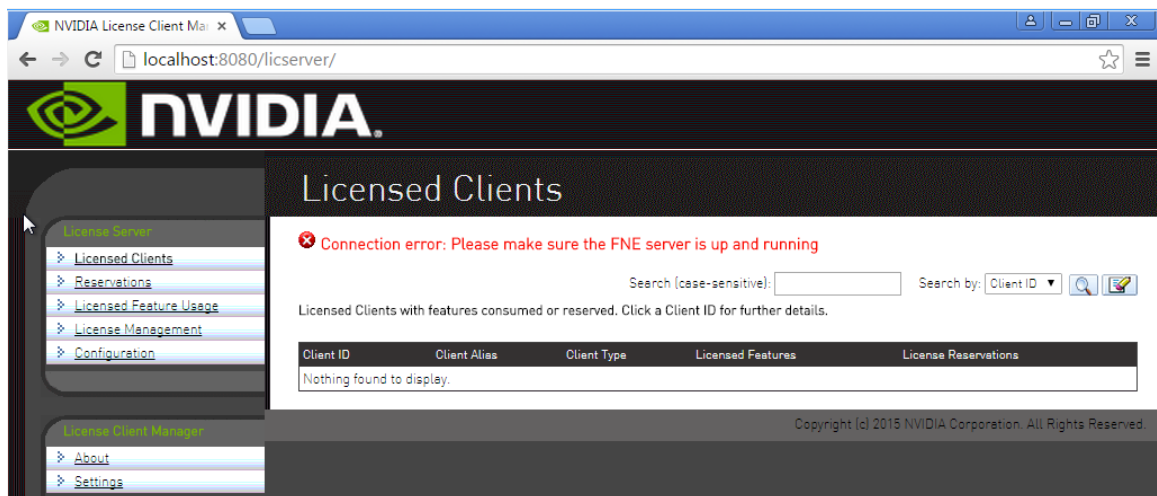
The license server logs report this error:

```
2015-09-06 14:47:41,726 FATAL Database may be already in use:
"Locked by another computer: 10.31.223.39".
Possible solutions: close all other connection(s); use the server mode
 [90020-184]
2015-09-06 14:47:41,726 INFO  Sending stop request to FlexNet License Server.
```

Platform

All

Workaround

None. Ensure that the license server host is configured with a constant IP address.

Ref. #

1685681

3.15. Uninstallation on Windows doesn't remove Apache Tomcat

Description

Running the Windows License Server uninstaller fails to remove Apache Tomcat.

Platform

All Windows variants

Workaround

Remove Apache Tomcat manually.

1. Open **Windows Control Panel**.
2. Select **Programs and Features**.
3. In the list of programs, select **Apache Tomcat** and click **Uninstall/Change**.

Status

Open

Ref. #

1684980

3.16. Upgrade on Windows doesn't upgrade Apache Tomcat

Description

Upgrading the license server software on Windows does not upgrade Apache Tomcat.

Platform

All Windows variants

Workaround

Uninstall Apache Tomcat and the license server software manually before upgrading the license server software on Windows.

Status

Duplicate of 1684980

Ref. #

200475014

3.17. Upgrade installation does not operate correctly

Description

If the license server is installed on a platform on which license server software version 2015.12 or earlier is installed, the license server installer is incorrectly executed. The upgrade installation is not indicated to the user and, on Windows, the Apache Tomcat installer is erroneously rerun.

Platform

All

Version

This issue affects upgrades from version 2015.12 or earlier.

Workaround

Before installing this release of the license server, uninstall the previous license server software and, on Windows, uninstall the Apache Tomcat software.

> Installed NVIDIA vGPU software licenses are **not** retained across an uninstallation followed by reinstallation. You must reinstall your licenses after reinstalling the license server software.
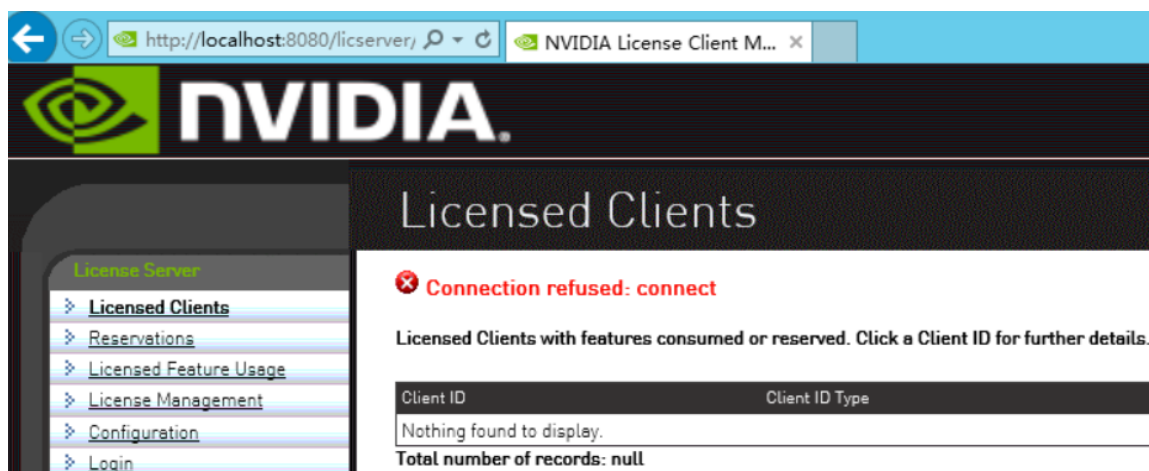
Status

Open

Ref. #

1713544, 1713532

3.18. After installation or upgrade on Windows, the license server may fail with the error `Connection refused: connect`

Description

After the license server is upgraded or installed on Windows, the license server may fail with the error `Connection refused: connect`.

This error occurs if the Windows service **Server** is not running when the license server installer is run. The license server installation script depends on this service. When this error occurs, the license server service **FlexNet License Server – nvidia** does not exist.
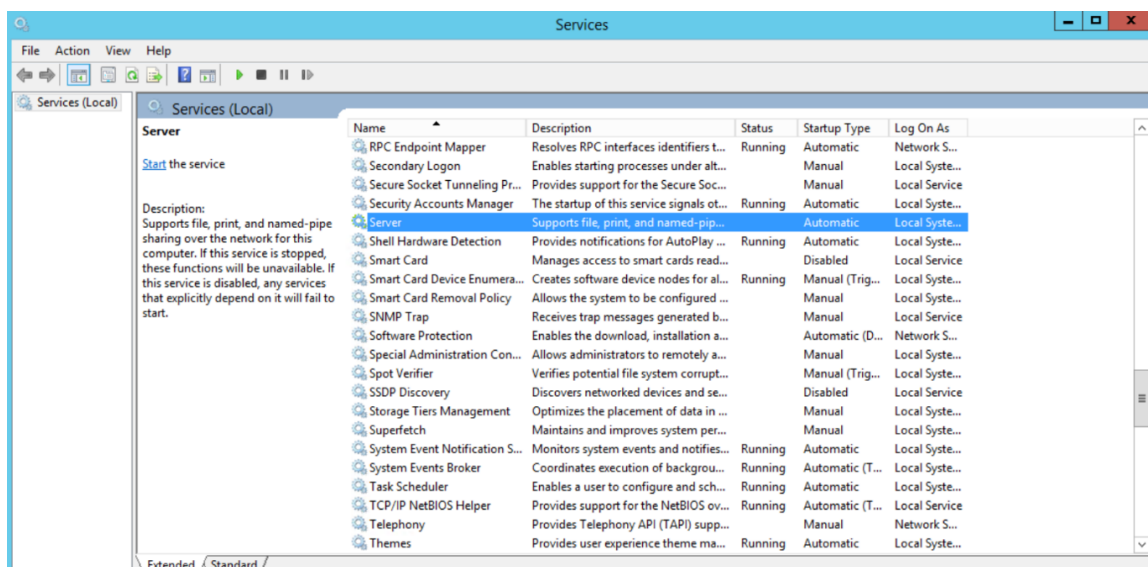
Platform

Windows

Workaround

1. Uninstall the license server software and the Apache Tomcat software.
2. Start the Windows service **Server**.

   a. Start the **Services** desktop app.

   b. In the list of **Services**, context click **Server** and choose **Start**.

3. Install the license server software.

> Installed NVIDIA vGPU software licenses are **not** retained across an uninstallation followed by reinstallation. You must reinstall your licenses after reinstalling the license server software.

Status

Open

Ref.

200488813

3.19. Rerunning the installer doesn't launch modify/uninstall

Description

Rerunning the license server installer doesn't provide options to modify or uninstall the license server. Instead, an error is reported that an upgrade is not applicable.

Platform

All

Workaround

To uninstall the license server, follow the uninstallation instructions in the *Virtual GPU License Server User Guide*.

Status

Open

Ref. #

1713546

3.20. Linux uninstaller allows execution as nonroot user

Description

The Linux uninstaller allows execution as a nonroot user. The uninstallation fails, and leaves the license server operational.

Platform

Linux

Workaround

1. Change to the license server installation directory.

   ```
   [~]$ cd /opt/flexnetls/nvidia
   ```
2. Run the uninstaller as root.

```
[~]$ sudo ./Change\ License\ Server\ Installation
```

Status

Open

Ref.

200162338

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