SolarWinds

Migrating SolarWinds NPM

Technical Reference

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SolarWinds Network Performance Monitor

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Migrating Network Performance Monitor

Migrating NPM to a different server is a process that can take as little as 30 minutes or as long as several hours, depending on the size of your SolarWinds Orion Database.

Depending on the complexity of your implementation, you may need to perform a number of different procedures when transferring NPM and any modules to different hardware.

Consider scheduling an appropriate maintenance window in which to perform your migration.

Pre-Requisites

Before you start the migration, take into account the following considerations:

- What are you migrating?

  Supposing that you have the SolarWinds Orion Database installed on a dedicated server, you might want to move NPM and the Orion platform products, the SolarWinds Orion Database or both.

- Check Requirements

  Make sure all general requirements are met. For more information, see General Requirements.

  If you are moving the SolarWinds Orion Database, make sure the SQL Server is already installed on the appropriate server. For more information, see SolarWinds Orion Database Requirements.

Migrating both NPM and the SolarWinds Orion Database

If you are moving both NPM and the SolarWinds Orion Database to new servers, you need to back up the database, install NPM on a new server, restore the database, and migrate the license. Optionally, you can also uninstall NPM on the original server.

To migrate both NPM and SolarWinds Orion Database:

1. Stop Services on the original NPM server. For more information, see Stopping SolarWinds Services.
2. Back up your SolarWinds Orion Database using the SQL Server Management Studio. For more information, visit the Microsoft Support Website at http://support.microsoft.com.
3. Restore the SolarWinds Orion Database on the new server. For more information about restoring the database using SQL Server Management Studio, visit the Microsoft Support Website at http://support.microsoft.com.
4. Install and configure NPM on the new server.

   To install NPM, run the NPM executable and complete the Installation Wizard. For more information, see Completing an Orion NPM Installation in the *SolarWinds Orion Network Performance Monitor Administrator Guide*.

   For more information about configuring NPM, see Updating NPM to Use the New SolarWinds Orion Database.

5. Migrate your SolarWinds license. This requires deactivating your license on the original NPM server, and re-activating it on the new NPM server. For more information, see Deactivating and Registering Licenses with the License Manager.

6. If you are also running further SolarWinds products, such as SAM, NCM, or NTA, you might need to adjust some product-relevant settings for the appropriate products:
    - For more information about moving SAM certificates, see Moving SolarWinds SAM Security Certificates to a New Server.
    - For more information about moving NCM certificates, see Moving the SolarWinds NCM Integration Component.
    - For more information about changing SQL Server settings on the NTA Flow Storage Database server, see Adjusting SQL Server Information on NTA Flow Storage Database Server.
7. Reassign nodes. For more information, see Reassigning Nodes.
8. If you are using customized Report-Writer reports, copy the customized reports. For more information, see Copying Customized Reports.
9. Update reports schemas. For more information, see Updating Report Schemas.
10. Uninstall NPM on the old server. For more information, see Uninstalling NPM from the Old Server.

Migrating NPM

If you are only migrating NPM, and the database stays on the original server, just install and configure NPM, and migrate your license.

To migrate only NPM:

1. Install NPM on a new server and run the Configuration Wizard.

   To install NPM, run the NPM executable and complete the Installation Wizard. For more information, see Completing an Orion NPM Installation in the *SolarWinds Orion Network Performance Monitor Administrator Guide*.

2. Migrate your SolarWinds license. This requires deactivating your license on the original NPM server, and re-activating it on the new NPM server. For more information, see Deactivating and Registering Licenses with the License Manager.
3. If you are also running further SolarWinds products, such as SAM, NCM, or NTA, you might need to adjust some product-relevant settings for the appropriate products:
   - For more information about moving SAM certificates, see Moving SolarWinds SAM Security Certificates to a New Server.
   - For more information about moving NCM certificates, see Moving the SolarWinds NCM Integration Component.
4. Reassign nodes. For more information, see Reassigning Nodes.
5. If you are using customized Report-Writer reports, copy the customized reports. For more information, see Copying Customized Reports.
6. Uninstall NPM on the old server. For more information, see Uninstalling NPM from the Old Server.

Migrating the SolarWinds Orion Database

If you move just the SolarWinds Orion Database and keep NPM on the original server, you only need to back up your SolarWinds Orion Database, restore it on the new server, and run the Configuration Wizard to adjust the SQL Database details to the new server.

To migrate the SolarWinds Orion Database:

1. Stop Services on the original NPM server. For more information, see Stopping SolarWinds Services.
2. Back up your SolarWinds Orion Database. For more information about using the SQL Server Management Studio, visit the Microsoft Support Website at http://support.microsoft.com.
3. Restore the SolarWinds Orion Database on the new server. For more information about using the SQL Server Management Studio, visit the Microsoft Support Website at http://support.microsoft.com.
4. Log in to the NPM Server, run the Configuration Wizard, and provide the new SolarWinds Orion Database details.
5. If you are also running SolarWinds NTA, you might need to adjust the SQL Server settings on the NTA Flow Storage Database server. For more information, see Adjusting SQL Server Information on NTA Flow Storage Database Server.

If you have any questions about this process, contact support@solarwinds.com.

General Requirements

Moving your NPM implementation to a new server requires the following:

- Server hardware meeting minimum requirements for the new NPM implementation. For more information about Orion NPM requirements, see NPM Requirements in the *SolarWinds Orion Network Performance Monitor Administrator Guide*.
- Windows user account credentials that have been granted administrative rights on both servers.
- A license reset to register NPM on your new server. You will need to install SolarWinds License Manager to manage the required license migration. For more information, see Maintaining Licenses in the *SolarWinds Orion Common Components Administrator Guide*.

  Note: Maps and map objects created or edited in Orion Network Atlas are stored in the SolarWinds Orion Database. If the database is successfully migrated, there is no need to migrate any additional Network Atlas map files.

SolarWinds Orion Database Requirements

Ensure that you comply with the following requirements before you attempt to modify or back up your existing database:

- Make sure the new SolarWinds Orion Database server meets the requirements of your product. NPM 11.5 requires SQL Server 2008 or higher. For more information, see Requirements for the Orion Database Server in the *Orion Common Components Administrator Guide*.
- Install your new database server. The following procedures assume you are moving your database from one physical server to another and that the management tool (Enterprise Manager, SQL Server Management Studio Express, or SQL Server Management Studio) is installed on the new database server.
- If you want to use a Microsoft SQL Server Express 2005 or 2008, recognize that the database store is limited to 4 GB. If you are running Microsoft SQL 2008 R2 or a higher version, the database limit is 10 GB.
- Know the **sa** password to both your existing Orion database server and your new database server.
- Know the credentials to an account with administrator rights on both your existing SolarWinds Orion Database server and your new database server.
- Have a maintenance window during which you can safely shutdown appropriate SolarWinds services. You need to stop data collection to ensure that your backup file matches your last active database state.

Stopping SolarWinds Services

It is important to stop the SolarWinds services that are currently writing to the database. This ensures that you do not have data inconsistencies when you bring your new database server online.

To stop SolarWinds services:

1. Click **Start > All Programs > SolarWinds Orion > Advanced Features > Orion Service Manager**.
2. Click **Shutdown all services**.

   Notes for older NPM versions:

   - If you are running NPM 10.2.2 or older, select each service, except the SQL Server service, and then click **Stop**.
   - If you have more than one Polling Engine, you will need to stop each additional Polling Engine before continuing.
   - Do not stop the SQL Service. The SQL Service needs to be running in order to make the necessary changes to the database.
3. Click **File > Exit**.

Updating NPM to Use the New SolarWinds Orion Database

After you have restored your SolarWinds Orion Database backup file, you must update your NPM server to recognize the restored database on the new database server, as shown in the following procedure.

Note: In general, SolarWinds recommends that you use SQL Server Authentication with the sa login and password to ensure that NPM can always access your SolarWinds Orion Database, even when it is hosted remotely on a separate server.

To update NPM to use a new database:

1. Log on to your NPM server.
2. If you are only migrating SQL Server and you have NTA with remote FSDB installed, you must uninstall NTA from the main Orion server before proceeding. Data remains untouched.
3. Click **Start > All Programs > SolarWinds Orion > Configuration and Auto-Discovery > Configuration Wizard**.

   Note: In older versions of NPM, the correct path may be **Start > All Programs > SolarWinds Orion > Configuration Wizard**.
4. Check **Database**, and then click **Next**.
5. Specify your new database server in the **SQL Server** field.
6. ***If you want to use SQL authentication***, check **Use SQL Server Authentication**, and then provide the appropriate credentials.

   Note: SolarWinds recommends that you use the **sa** login and password for your database server to ensure that you are able to properly configure the SolarWinds Orion Database user account.
7. Click **Next**.

8. Select **Use an existing database**, select or type the **Existing Database** name, and then click **Next**.
9. ***If you are prompted to use the existing database***, click **Yes**.
10. Select **Create a new account**, and then provide a **New Account** name.

    Notes:

    - Creating a new account ensures that NPM has required access to your migrated database.
    - The **New Account** must be a member of the **securityadmin** server role.
    - The sysadmin role and the **sa** user account are always members of **securityadmin**.
11. Provide and confirm an account **Password**.
12. Click **Next** to start database configuration, and then click **Finish** to exit the Configuration Wizard.
13. If you uninstalled NTA in step 2, do the following:

    a. Adjust the SQL Server settings on the NTA Flow Storage Database server. For more information, see Adjusting SQL Server Information on NTA Flow Storage Database Server.

    b. Install NTA on the main Orion server.

Reassigning Nodes

Configuration Wizard configures all settings necessary for NPM. However, if the nodes stay assigned to the original polling engine after the migration, you might need to reassign them manually.

If a new name is used for the new NPM server, it is added to the database as a new polling engine. All current nodes remain assigned to the old polling engine name and must be reassigned to the new polling engine, as shown in the following procedure.

To reassign items to the new polling engine:

1. Start the **Orion Service Manager** in your **SolarWinds Orion > Advanced Features** program folder.
2. Stop all SolarWinds services.

   Notes:

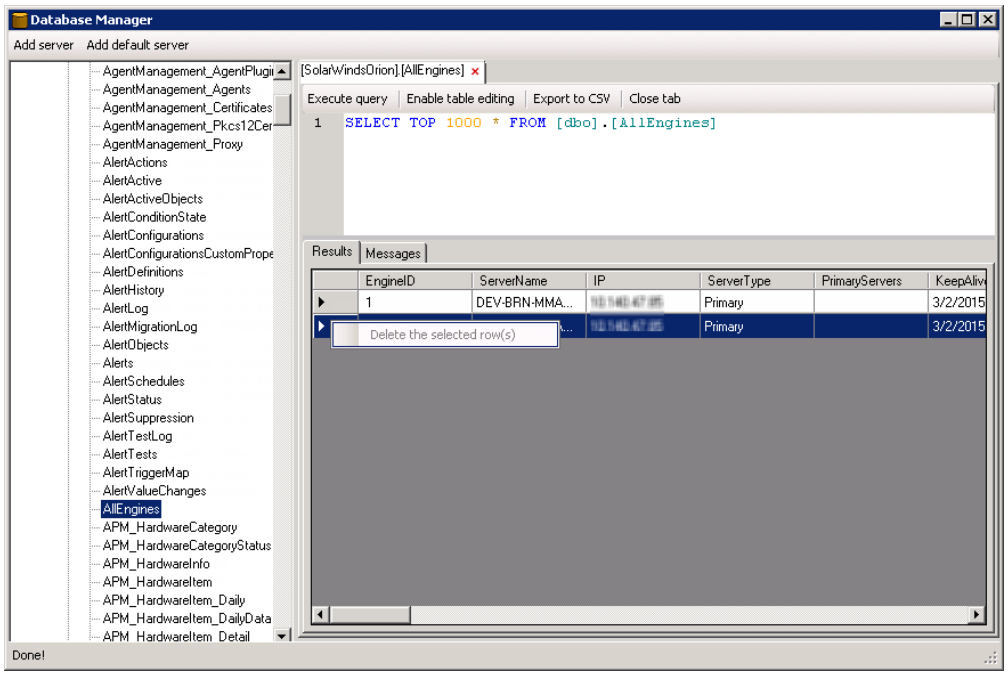
   - If you have more than one Polling Engine, you will need to stop each additional Polling Engine before continuing.
   - Do not stop the SQL Service. The SQL Service needs to be running in order to make the necessary changes to the database.
3. Click **File > Exit**.
4. Start the **Database Manager** in your **SolarWinds Orion > Advanced Features** program folder.
5. Expand your SQL Server in the tree.
6. Expand the SolarWinds Orion Database.

   Note: By default, this database is named **SolarWindsOrion**.
7. Right-click on the **AllEngines** table, and then click **Query Table**.
8. Click **Execute query**to display the table entries.
9. Select **Enable table editing**.

10. Replace the value in the **ServerName** field for the old polling engine with the server name of the new polling engine.

    Note: It is not necessary to update the **IP** field. The next time the service is started, NPM discovers the new **IP** address, and the IP field is updated automatically.

11. Right-click the left-most cell in the old polling engine row and then click **Delete the selected row(s)**.



12. Click **Yes** when prompted to confirm deleting the row.

    Note: The final result will display the new server name with the IP address of the old server. The next time the service starts, the IP field will be updated with the IP address of the new server.

13. Close the Database Manager.
14. Restart all services on all polling engines using the Orion Service Manager.

Copying Customized Reports

There are two report types in NPM - web-based reports, and archaic Report Writer reports. Web-based reports are stored in the SolarWinds Orion Database, and are thus automatically moved together with the database.

If you have customized Report Writer reports, you might need to copy them manually to the new NPM server.

To copy your reports:

1. On the old server, copy your custom reports located in the **\Orion\Reports** folder.
2. Paste these reports into the **Orion\Reports** folder on the new server.

Updating Report Schemas

If you have added custom properties to the database, you will need to upgrade the report schemas on the new server. Updating the report schemas allows Report Writer to display and use custom property information.

To update report schemas for custom properties:

1. Ensure that Report Writer is closed, and then click **Start > All Programs > SolarWinds Orion > Advanced Features > Custom Property Editor**.
2. Right-click on the toolbar, and then click **Customize**.
3. Click the Commands tab.
4. Click the **Properties** in the category list.
5. Drag **Update Report Schemas** to the toolbar to add a new button to the toolbar.
6. Close the Customize window.
7. Click **Update Report Schemas** on the toolbar.
8. Click **OK** after the custom properties have been added to the report schemas.
9. Close Custom Property Editor.

Moving SolarWinds SAM Security Certificates to a New Server

SolarWinds SAM encrypts your sensitive data with a security certificate stored on the original SolarWinds SAM server. To grant a new server access to this encrypted data, you must copy the original security certificate to the new server.

Warning: If you do not replicate the original certificate, SolarWinds SAM on the new server cannot access any credentials used by your component monitors, and all of those component monitors will fail.

To replicate the original certificate:

1. Export the credential from the original server.
    a. On the Start Menu, click **Run**, type **MMC**, and then click **OK**.
    b. On the **File** menu, click **Add/Remove Snapin**, and then click **Add**.
    c. Select **Certificates** and then click **Add**.
    d. Select **Computer account** and then click **Next**.
    e. Select **Local computer** and then click **Finish**.
    f. Click **Close**.
    g. Click **OK**.
    h. Expand the **Certificates (Local Computer) > Personal > Certificates** group.
    i. Right-click **SolarWinds Agent Provision** (if present), and **SolarWinds-Orion**, point to **All Tasks** on the shortcut menu, and then click **Export**.
    j. Click **Next** in the Certificate Export Wizard.
    k. Select **Yes**, export the private key, click **Next**, and then click **Next** again.
    l. Type and confirm a password for this private key, and then click **Next**.

m. Specify the file name to which you want to save the certificate, click **Next**, and then click **Finish**—the certificate is saved with a **.pfx** file name extension.

2. Copy the **.pfx** certificate file to the new server.
3. Import the certificate to the new server.
    a. On the Start Menu, click **Run**, type **MMC**, and then click **OK**.
    b. On the **File** menu, click **Add/Remove Snapin**, and then click **Add**.
    c. Select **Certificates**, and then click **Add**.
    d. Select **Computer account**, and then click **Next**.
    e. Select **Local computer**, and then click **Finish**.
    f. Click **Close**.
    g. Click **OK**.
    h. Expand the **Certificates (Local Computer)** group.
    i. Expand the **Personal** group.
    j. Expand the **Certificates** group.
    k. ***If there is a SolarWinds SAM Engine item in the list***, right-click **SolarWinds Agent Provision** and **SolarWinds-Orion** and select **Delete** from the shortcut menu.
    l. Right-click the **Certificates—Personal—Certificates** node, point to **All Tasks** in the shortcut menu, and then click **Import**.
    m. Click **Next** in the Certificate Import Wizard.
    n. Specify the `.pfx` certificate file you copied to the server and then click **Next**.
    o. Enter the password for the private key, check **Mark this key as exportable**, and then click **Next**.

p. Select **Place all certificates in the following store**, and then select **Personal** as the Certificate Store.

q. Click **Next** and then click **Finish**.

Moving the SolarWinds NCM Integration Component

The SolarWinds NCM integration component encrypts your sensitive data with a security certificate stored on the original NPM server. If you have the SolarWinds NCM integration component installed, you might need to grant the additional web console access to the encrypted data.

To grant access to the encrypted data:

1. Export the SolarWinds NCM Certificate from the NPM. For more information, see Exporting NCM Integration Engine Certificate.
2. Import the certificate file to the NPM additional web console. For more information, see Importing Certificate File to NPM Additional Web Console.

Exporting NCM Integration Engine Certificate

Export the SolarWinds NCM Integration Engine certificate from the NPM server.

To export the certificate:

1. On the **Start** Menu, click **Run**, type **MMC**, and then click **OK**.
2. On the **File** menu, click **Add/Remove Snapin**, and then click **Add**.
3. Select **Certificates**, and then click **Add**.
4. Select **Computer** account, and then click **Next**.
5. Select **Local computer**, and then click **Finish**.
6. Click **Close**.
7. Click **OK**.
8. Expand the **Certificates (Local Computer)** group.
9. Expand the **Personal** group.
10. Expand the **Certificates** group.
11. Right-click **Orion NCM Integration Engine**, point to **All Tasks** on the shortcut menu, and then click **Export**.
12. Click **Next** in the Certificate Export Wizard.
13. Select **Yes, export the private key**, click **Next**, and then click **Next** again.
14. Type and confirm a password for this private key, and then click **Next**.
15. Specify the file name to which you want to save the certificate, click **Next**, and then click **Finish**—the certificate is saved with a .pfx file name extension.

Importing Certificate File to NPM Additional Web Console

To import the certificate file to the NPM additional web console, complete the following procedure.

To import the SolarWinds NCM certificate file to an additional web console:

1. Copy the .pfx certificate file to the computer running the NPM additional web console.
2. On the **Start** Menu, click **Run**, type **MMC**, and then click **OK**.
3. On the **File** menu, click **Add/Remove Snapin**, and then click **Add**.
4. Select **Certificates**, and then click **Add**.
5. Select **Computer** account, and then click **Next**.
6. Select **Local computer**, and then click **Finish**.
7. Click **Close**.
8. Click **OK**.
9. Expand the **Certificates (Local Computer)** group.
10. Expand the **Personal** group.
11. Expand the **Certificates** group.
12. Point to **All Tasks** in the shortcut menu, and then click Import.
13. Click **Next** in the Certificate Import Wizard.
14. Specify the .pfx certificate file you copied to the server, and then click **Next**.
15. Enter the password for the private key, check **Mark this key as exportable**, and then click **Next**.
16. Select **Place all certificates in the following store**, and then select **Personal** as the Certificate Store.
17. Click **Next**, and then click **Finish**.

Adjusting SQL Server Information on NTA Flow Storage Database Server

If you are also running SolarWinds NTA, migrating the SolarWinds Orion Database might require further settings on the NTA Flow Storage Database server.

SolarWinds NTA stores flows in the NTA Flow Storage Database. However, NTA also uses information from the SolarWinds Orion Database. If you therefore migrate your SolarWinds Orion Database, you need to adjust the SolarWinds Orion Database server settings on the NTA Flow Storage Database server.

Warning: If the NTA Flow Storage Database is not empty, and you are connecting it to an empty SQL Database, you must delete all data from the NTA Flow Storage Database. Otherwise, the existing data might be associated with wrong nodes and interfaces.

To adjust SolarWinds Orion Database server settings after the migration:

1. Log on to your remote NTA Flow Storage Database server.
2. Start the **NTA Flow Storage Configurator** in the **SolarWinds Orion > NetFlow Traffic Analysis** program folder.
3. Fill in the new SQL Database server data and click **OK**.

For more information about migrating the NTA Flow Storage Database, see Moving the NTA Flow Storage Database in the *NTA online documentation*.

Installing License Manager

Install License Manager on the computer on which you want to activate, upgrade or synchronize your license or on which you want to deactivate currently licensed products.

Warning: You must install License Manager on a computer with the correct time. If the time on the computer is even slightly off, in either direction, from Greenwich Mean Time (GMT), you cannot reset licenses without contacting SolarWinds Customer Service. Time zone settings neither affect nor cause this issue.

To install License Manager via SolarWinds UI:

1. Click **Start > All Programs > SolarWinds > SolarWinds License Manager Setup**.

   Note: If problems with License Manager occur, download and install the latest version of License Manager.

2. Click **Next** to accept the SolarWinds EULA.
3. ***If you are prompted to install the SolarWinds License Manager application,*** click **Install**.

Downloading the License Manager from the Internet

To download and install the latest version of the License Manager:

1. Navigate to http://solarwinds.s3.amazonaws.com/solarwinds/Release/LicenseManager/LicenseManager.zip.
2. Unzip the downloaded file, and then run LicenseManager.exe.

Deactivating and Registering Licenses with the License Manager

If you decide to move your SolarWinds product to another server, you need to deactivate the license on the computer with the currently licensed product and reactivate it on the server with the new installation.

To be able to deactivate and reuse a license without contacting SolarWinds Customer Service, your product needs to be under active maintenance.

To deactivate a SolarWinds license and register it on another computer:

1. Log on to the computer where the currently licensed SolarWinds product is installed.
2. Click **Start > All Programs > SolarWinds > SolarWinds License Manager**.
3. Select the boxes for products you want to deactivate on this computer, and then click **Deactivate**.
4. When prompted, confirm that you are sure that you want to deactivate the product.

   Deactivated licenses are now available to activate on a new computer.

   If you have deactivated a license on an offline computer, or if you do not have active maintenance, contact Customer Support at customerservice@solarwinds.com to be able to reuse the available license.
5. Log on to the computer on which you want to install your products, and then begin installation.
6. When asked to specify your licenses, provide the appropriate information. The license you deactivated earlier is then assigned to the new installation.

Uninstalling NPM from the Old Server

Once you have completed the previous steps, check System Manager to ensure that all your nodes were transferred successfully. Verify that your alerts, reports, and maps were copied properly, and then check the NPM website to ensure that everything was successfully migrated. As a last step, fully uninstall NPM from the old server, as shown in the following procedure.

To uninstall NPM from the old server:

1. Log on to the old NPM server and click **Start > Control Panel > Add or Remove Programs**.
2. Click **SolarWinds Orion Network Performance Monitor**, and then click **Remove**.

   Note: If you are uninstalling NPM version 8.1 or earlier, click **Start > SolarWinds Orion Network Performance Monitor > Uninstall > Uninstall Orion Network Performance Monitor**.
3. Complete the uninstall wizard, being sure to remove all shared components when prompted.