



Windows Server® 2008

Windows Server 2008 TS Licensing Step-By-Step Guide

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Abstract

The Windows Server® 2008 operating system provides a license management system for Terminal Services known as Terminal Services Licensing (TS Licensing). This system allows terminal servers to obtain and manage Terminal Services client access licenses (TS CALs) for devices and users that are connecting to a terminal server. TS Licensing supports terminal servers that run Windows Server 2008 as well as terminal servers running Windows Server® 2003 or Windows® 2000 Server.

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Windows Server 2008 TS Licensing Step-by-Step Guide

The Windows Server® 2008 operating system provides a license management system for Terminal Services known as Terminal Services Licensing (TS Licensing). This system allows terminal servers to obtain and manage Terminal Services client access licenses (TS CALs) for devices and users that are connecting to a terminal server. TS Licensing supports terminal servers that run Windows Server 2008 as well as terminal servers running Windows Server® 2003 or Windows® 2000 Server.

For more information about TS Licensing, see the Terminal Services page on the Windows Server 2008 TechCenter (<http://go.microsoft.com/fwlink/?LinkId=48555>) or the TS Licensing Manager Help in the Windows Server 2008 Technical Library (<http://go.microsoft.com/fwlink/?LinkId=101639>).

The following topics are covered in this Step-by-Step Guide:

- [Overview of TS Licensing](#)
- [Installation Prerequisites for TS Licensing](#)
- [Configuration Checklist for TS Licensing](#)
- [Installing TS Licensing](#)
- [Connecting to a Terminal Services License Server](#)
- [Activating a Terminal Services License Server](#)
- [Installing Terminal Services Client Access Licenses](#)
- [Configuring License Settings on a Terminal Server](#)
- [Tracking the Issuance of Terminal Services Per User Client Access Licenses](#)
- [Troubleshooting TS Licensing Installation](#)
- [Known Issues for TS Licensing Installation](#)

Overview of TS Licensing

Terminal Services Licensing (TS Licensing) manages the Terminal Services client access licenses (TS CALs) that are required for each device or user to connect to a terminal server. You use TS Licensing to install, issue, and track the availability of TS CALs on a Terminal Services license server.

For more information about TS CALs, see [Terminal Services Client Access Licenses \(TS CALs\)](#).

When a client—either a user or a device—connects to a terminal server, the terminal server determines if a TS CAL is needed. The terminal server then requests a TS CAL from the Terminal Services license server on behalf of the client attempting to connect to the terminal server. If an

appropriate TS CAL is available from a license server, the TS CAL is issued to the client, and the client will be able to connect to the terminal server.

Although there is a licensing grace period during which no license server is required, after the grace period ends, clients must have a valid TS CAL issued by a license server before they can log on to a terminal server.

 **Important**

Remote Desktop supports two concurrent connections to remotely administer a computer. You do not need a license server for these connections.

To use Terminal Services, you must also have at least one license server deployed in your environment. For small deployments, you can install both the Terminal Server role service and the TS Licensing role service on the same computer. For larger deployments, it is recommended that the TS Licensing role service be installed on a separate computer from the Terminal Server role service.

You must configure TS Licensing correctly in order for your terminal server to accept connections from clients. To allow ample time for you to deploy a license server, Terminal Services provides a licensing grace period during which no license server is required. During this grace period, a terminal server can accept connections from unlicensed clients without contacting a license server. The grace period begins the first time the terminal server accepts a client connection. The grace period ends after whichever of the following occurs first:

- A permanent TS CAL is issued by a license server to a client connecting to the terminal server.
- The number of days in the grace period is exceeded.

The length of the grace period is based on the operating system running on the terminal server. The grace periods are as follows:

Operating system running on the terminal server	Grace period
Windows Server 2008	120 days
Windows Server 2003 R2	120 days
Windows Server 2003	120 days
Windows 2000	90 days

By default, after you log on as a local administrator on a terminal server, a message will appear in the lower-right corner of the desktop that notes the number of days until the licensing grace period for the terminal server expires.

Before the TS Licensing grace period ends, you must purchase and install the appropriate number of TS CALs for each device or user that needs to connect to a terminal server. In addition, you must verify that the Terminal Services licensing mode that you specify on the terminal server matches the type of TS CAL available on the license server. The Terminal

Services licensing mode determines the type of TS CAL that a terminal server will request from a license server on behalf of a client connecting to the terminal server.

Installation Prerequisites for TS Licensing

TS Licensing manages the Terminal Services client access licenses (TS CALs) that are required for each device or user to connect to a terminal server. You use TS Licensing to install, issue, and track the availability of TS CALs on a Terminal Services license server.

This checklist provides tasks that an administrator should perform before installing and configuring TS Licensing.

Task	Reference
Determine if a Terminal Services license server is needed.	Remote Desktop supports two concurrent connections to remotely administer a computer. You do not need a license server for these connections.
Verify that the license server supports the operating system of the terminal servers.	TS Licensing in Windows Server 2008 supports terminal servers that run: <ul style="list-style-type: none">• Windows Server 2008• Windows Server 2003 R2• Windows Server 2003• Windows 2000 A terminal server running Windows Server 2008 can only communicate with a license server running Windows Server 2008.
Determine which type of TS CALs to use.	Terminal Services Client Access Licenses (TS CALs)
Purchase the appropriate type and number of TS CALs.	Purchase Client Access Licenses (http://go.microsoft.com/fwlink/?LinkID=81077)
Determine the method of the Terminal Services license server discovery.	Terminal Services License Server Discovery

Terminal Services Client Access Licenses (TS CALs)

There are two types of Terminal Services client access licenses (TS CALs):

- TS Per Device CALs
- TS Per User CALs

Important

The Terminal Services licensing mode configured on a terminal server must match the type of TS CALs available on the license server. For more information, see [Configuring License Settings on a Terminal Server](#).

When Per Device licensing mode is used, and a client computer or device connects to a terminal server for the first time, the client computer or device is issued a temporary license by default. When a client computer or device connects to a terminal server for the second time, if the license server is activated and enough TS Per Device CALs are available, the license server issues the client computer or device a permanent TS Per Device CAL.

A TS Per User CAL gives one user the right to access a terminal server from an unlimited number of client computers or devices. TS Per User CALs are not enforced by TS Licensing. As a result, client connections can occur regardless of the number of TS Per User CALs installed on the license server. This does not absolve administrators from the Microsoft Software License Terms requirements to have a valid TS Per User CAL for each user. Failure to have a TS Per User CAL for each user, if Per User licensing mode is being used, is a violation of the license terms.

To ensure that you are in compliance with the license terms, make sure that you track the number of TS Per User CALs being used in your organization and that you have a sufficient number of TS Per User CALs installed on the license server to provide a TS Per User CAL for each user that needs to connect to the terminal server.

In Windows Server 2008, you can use the TS Licensing Manager tool to track and generate reports on the issuance of TS Per User CALs. For more information, see [Tracking the Issuance of Terminal Services Per User Client Access Licenses](#).

Terminal Services License Server Discovery

When you install the TS Licensing role service, you need to specify a discovery scope, which determines how the Terminal Services license server will be automatically discoverable by terminal servers.

The three discovery scopes are:

- Workgroup
- Domain
- Forest

The recommended discovery scope for a license server is **Forest**.

 **Note**

In Windows Server 2003, "forest discovery scope" was known as "enterprise scope."

Workgroup discovery scope is only available when the computer that you are installing the TS Licensing role service on is not a member of a domain. If you configure workgroup discovery scope, terminal servers, without any additional configuration, can automatically discover a license server in the same workgroup.

Domain discovery scope and forest discovery scope are only available when the computer that you are installing the TS Licensing role service on is a member of a domain.

 **Note**

If the license server is a member of a workgroup, and then you join the license server to an Active Directory® domain, the discovery scope for the license server will be automatically changed from **Workgroup** to **Domain**.

If you configure domain discovery scope, terminal servers, without any additional configuration, can automatically discover a license server in the same domain only if the license server is installed on a domain controller. You can install the TS Licensing role service on a non-domain controller, but the license server will not be automatically discoverable by terminal servers in the domain. To configure domain discovery scope, you must be logged on as a domain administrator to the domain in which the license server is a member.

If you configure forest discovery scope, terminal servers, without any additional configuration, can automatically discover a license server in the same forest, because the license server is published in Active Directory Domain Services. To configure forest discovery scope, you must be logged on as an enterprise administrator to the forest in which the license server is a member.

 **Important**

To issue TS Per User CALs to users in other domains, the license server must be a member of the Terminal Server License Servers group in those domains, regardless of whether the discovery scope for the license server is **Domain** or **Forest**.

In the license server discovery process, a terminal server in a Windows Server-based domain attempts to contact a license server in the following order:

- License servers that are specified in the Terminal Services Configuration tool or by using Group Policy
- A license server that is installed on the same computer as the terminal server
- License servers that are published in Active Directory Domain Services
- License servers that are installed on domain controllers in the same domain as the terminal server

 **Important**

To see which license servers the terminal server discovers and to be alerted to possible licensing discovery and configuration issues, use **Licensing Diagnosis** in Terminal

Services Configuration. For more information, see [Troubleshooting TS Licensing Installation](#).

You can change the discovery scope of the license server by using **Review Configuration** in the TS Licensing Manager tool. For more information, see [Troubleshooting TS Licensing Installation](#).

Configuration Checklist for TS Licensing

TS Licensing manages the Terminal Services client access licenses (TS CALs) that are required for each device or user to connect to a terminal server. You use TS Licensing to install, issue, and track the availability of TS CALs on a Terminal Services license server.

This checklist provides the tasks that an administrator needs to complete to install and configure TS Licensing.

Task	Reference
Review prerequisites for installing TS Licensing.	Installation Prerequisites for TS Licensing
Install the TS Licensing role service.	Installing TS Licensing
Activate the Terminal Services license server.	Activating a Terminal Services License Server
Install Terminal Services client access licenses (TS CALs) on the Terminal Services license server.	Installing Terminal Services Client Access Licenses
Configure the terminal server to support TS Licensing.	Configuring License Settings on a Terminal Server

For more information, see "TS Licensing Configuration Guidelines" in the TS Licensing Manager Help in the Windows Server 2008 Technical Library (<http://go.microsoft.com/fwlink/?LinkId=107352>).

Installing TS Licensing

Use the following procedure to install the TS Licensing role service by using Server Manager if Terminal Services is not already installed on the server. If Terminal Services is already installed on the server, see [Install the TS Licensing role service \(when Terminal Services is already installed\)](#).



Note

The installation of the TS Licensing role service does not require the computer to be restarted.

Membership in the local **Administrators** group, or equivalent, on the computer that you plan to configure, is the minimum required to complete this procedure.

► **To install the TS Licensing role service**

1. Open Server Manager. To open Server Manager, click **Start**, point to **Administrative Tools**, and then click **Server Manager**.
2. In the left pane, right-click **Roles**, and then click **Add Roles**.
3. In the Add Roles Wizard, on the **Before You Begin** page, click **Next**.
4. On the **Select Server Roles** page, under **Roles**, select the **Terminal Services** check box.



Note

If Terminal Services is already installed on the server, the **Terminal Services** check box will be selected and dimmed.

5. Click **Next**.
6. On the **Terminal Services** page, click **Next**.
7. On the **Select Role Services** page, select the **TS Licensing** check box.
8. On the **Configure Discovery Scope for TS Licensing** page, specify the discovery scope for TS Licensing. For more information about discovery scopes, see [Terminal Services License Server Discovery](#).
9. On the **Configure Discovery Scope for TS Licensing** page, you can also specify the location where the TS Licensing database will be stored. If you want to specify a database location other than the default location provided, click **Browse**. Note that the database location must be a local folder on the computer on which the TS Licensing role service is being installed.
10. Click **Next**.
11. On the **Confirm Installation Selections** page, verify that the TS Licensing role service will be installed, and then click **Install**.
12. On the **Installation Progress** page, installation progress will be noted.
13. On the **Installation Results** page, confirm that installation for the TS Licensing role service succeeded, and then click **Close**.

Install the TS Licensing role service (when Terminal Services is already installed)

Use the following procedure to install the TS Licensing role service when Terminal Services is already installed on the server.



Note

The installation of the TS Licensing role service does not require the computer to be restarted.

Membership in the local **Administrators** group, or equivalent, on the computer that you plan to configure, is the minimum required to complete this procedure.

► To install the TS Licensing role service (when Terminal Services is already installed)

1. Open Server Manager. To open Server Manager, click **Start**, point to **Administrative Tools**, and then click **Server Manager**.
2. In the left pane, expand **Roles**.
3. Right-click **Terminal Services**, and then click **Add Role Services**.
4. On the **Select Role Services** page, select the **TS Licensing** check box, and then click **Next**.
5. On the **Configure Discovery Scope for TS Licensing** page, specify the discovery scope for TS Licensing. For more information about discovery scopes, see [Terminal Services License Server Discovery](#).
6. On the **Configure Discovery Scope for TS Licensing** page, you can also specify the location where the TS Licensing database will be stored. If you want to specify a database location other than the default location provided, click **Browse**. Note that the database location must be a local folder on the computer on which the TS Licensing role service is being installed.
7. Click **Next**.
8. On the **Confirm Installation Selections** page, verify that the TS Licensing role service will be installed, and then click **Install**.
9. On the **Installation Progress** page, installation progress will be noted.
10. On the **Installation Results** page, confirm that installation for the TS Licensing role service succeeded, and then click **Close**.

Connecting to a Terminal Services License Server

After installing TS Licensing, you can use the TS Licensing Manager tool to connect to and manage Terminal Services license servers.

If you want to use TS Licensing Manager from another Windows Server 2008 computer, see [Installing TS Licensing Manager](#).

Membership in the local **Administrators** group, or equivalent, is the minimum required to complete this procedure.

► **To connect to a Terminal Services license server**

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. On the **Action** menu, click **Connect**.
3. In the **Server** box, type the name of the license server to which you want to connect, and then click **Connect**.

When TS Licensing Manager opens, it tries to find all the license servers in the workgroup or domain that are automatically discoverable and to which the user has the appropriate administrative permissions.

Installing TS Licensing Manager

The TS Licensing Manager tool in Windows Server 2008 is automatically installed on any computer on which the TS Licensing role service has been installed. If you want to manage your license servers from a remote computer running Windows Server 2008, you can install TS Licensing Manager on that computer by using the following procedure.

Membership in the local **Administrators** group, or equivalent, on the computer that you plan to configure, is the minimum required to complete this procedure.

► **To install TS Licensing Manager by using Server Manager**

1. Open Server Manager. To open Server Manager, click **Start**, point to **Administrative Tools**, and then click **Server Manager**.
2. In the left pane, right-click **Features**, and then click **Add Features**.
3. On the **Select Features** page, expand **Remote Server Administration Tools**, expand **Role Administration Tools**, and then expand **Terminal Services Tools**.
4. Select the **TS Licensing Tools** check box, and then click **Next**.
5. On the **Confirm Installation Selections** page, click **Install**.
6. On the **Installation Progress** page, installation progress will be noted.
7. On the **Installation Results** page, confirm that installation of TS Licensing Manager succeeded, and then click **Close**.
8. To run TS Licensing Manager, click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.

Activating a Terminal Services License Server

A Terminal Services license server must be activated in order to certify the server and allow the license server to issue Terminal Services client access licenses (TS CALs). You can activate a license server by using the Activate Server Wizard in the TS Licensing Manager tool.

There are three methods by which you can activate your license server:

- **Internet (Automatic)** This method requires Internet connectivity from the computer running TS Licensing Manager. Internet connectivity is not required from the license server itself. This method uses TCP/IP (TCP Port 443) to connect directly to the Microsoft Clearinghouse.
- **Web** You can use the Web method when the computer running TS Licensing Manager does not have Internet connectivity, but you have access to the Web by means of a Web browser from another computer. The URL for the Web method is displayed in the Activate Server Wizard.
- **Telephone** The telephone method allows you to talk to a Microsoft customer service representative to complete the activation process. The appropriate telephone number is determined by the country/region that you choose in the Activate Server Wizard and is displayed by the wizard.

When you activate the license server, Microsoft provides the server with a limited-use digital certificate that validates server ownership and identity. Microsoft uses an X.509 industry standard certificate for this purpose. By using this certificate, a license server can make subsequent transactions with Microsoft.

If a license server is not activated, the license server can only issue temporary TS Per Device CALs, which are valid for 90 days, or TS Per User CALs.

Additional references

- [Activating a Terminal Services License Server Automatically](#)
- [Activating a Terminal Services License Server by Using a Web Browser](#)
- [Activating a Terminal Services License Server by Using the Telephone](#)

Activating a Terminal Services License Server Automatically

The automatic activation method requires Internet connectivity from the computer running the TS Licensing Manager tool. Internet connectivity is not required from the license server itself. This method uses TCP/IP (TCP Port 443) to connect directly to the Microsoft Clearinghouse.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

► **To activate a Terminal Services license server automatically**

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Right-click the license server that you want to activate, and then click **Activate Server**. The Activate Server Wizard starts.
3. Click **Next**.
4. On the **Connection Method** page, in the **Connection method** list, select **Automatic connection (recommended)**, and then click **Next**.
5. On the **Company Information** page, type your name, company, and country/region information, and then click **Next**.
6. Specify any other information that you want, such as e-mail and company address. This information is optional.
7. Click **Next**. Your license server is activated.
8. On the **Completing the Activate Server Wizard** page, do one of the following:
 - To install Terminal Services client access licenses (TS CALs) onto your license server, ensure that the **Start Install Licenses Wizard now** check box is selected, click **Next**, and then follow the instructions.
 - To install TS CALs later, clear the **Start Install Licenses Wizard now** check box, and then click **Finish**.

Activating a Terminal Services License Server by Using a Web Browser

The Web activation method can be used when the computer running the TS Licensing Manager tool does not have Internet connectivity, but you have access to the Web by means of a Web browser from another computer. The URL for the Web method is displayed in the Activate Server Wizard.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

► **To activate a Terminal Services license server by using a Web browser**

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Right-click the license server that you want to activate, and then click **Activate Server**.

The Activate Server Wizard starts.

3. Click **Next**.
4. On the **Connection Method** page, in the **Connection method** list, select **Web Browser**, and then click **Next**.
5. On the **License Server Activation** page, click the hyperlink to connect to the Terminal Server Licensing Web site.

If you are running TS Licensing Manager on a computer that does not have Internet connectivity, note the address for the Terminal Server Licensing Web site, and then connect to the Web site from a computer that has Internet connectivity.
6. Under **Select Option**, click **Activate a license server**, and then click **Next**.
7. In the Product ID boxes, type your Product ID. Your Product ID is displayed on the **License Server Activation** page of the Activate Server Wizard. You must also complete the name, company, and country/region fields. Specify any other information that you want to provide, such as e-mail and company address, and then click **Next**.
8. Confirm your entries, and then click **Next**. Your license server ID is displayed. Write down the license server ID or print the Web page.
9. On the **License Server Activation** page of the Activate Server Wizard, type the license server ID that you received in the previous step, and then click **Next**. Your license server is activated.
10. On the **Completing the Activate Server Wizard** page, do one of the following:
 - To install Terminal Services client access licenses (TS CALs) onto your license server, ensure that the **Start Install Licenses Wizard now** check box is selected, click **Next**, and then follow the instructions.
 - To install TS CALs later, clear the **Start Install Licenses Wizard now** check box, and then click **Finish**.

Activating a Terminal Services License Server by Using the Telephone

The telephone activation method allows you to talk to a Microsoft customer service representative to complete the activation process. The appropriate telephone number is determined by the country/region that you choose in the Activate Server Wizard and is displayed by the wizard.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To activate a Terminal Services license server by telephone

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click

TS Licensing Manager.

2. Right-click the license server that you want to activate, and then click **Activate Server**. The Activate Server Wizard starts.
3. Click **Next**.
4. On the **Connection Method** page, in the **Connection method** list, select **Telephone**, and then click **Next**.
5. On the **Country or Region Selection** page, click your country/region, and then click **Next** to display the appropriate telephone number to call.
6. Call Microsoft by using the telephone number that is displayed on the **License Server Activation** page, and then provide the Microsoft customer support representative with the Product ID that is displayed on your screen. The representative will also ask you to provide your name and the name of your company. The representative processes your request to activate the license server, and creates a unique ID for your license server.
7. On the **License Server Activation** page, type the license server ID that the representative provides, and then click **Next**. Your license server is activated.
8. On the **Completing the Terminal Server License Server Activation Wizard** page, do one of the following:
 - To install Terminal Services client access licenses (TS CALs) onto your license server, ensure that the **Start Install Licenses Wizard now** check box is selected, click **Next**, and then follow the instructions.
 - To install TS CALs later, clear the **Start Install Licenses Wizard now** check box, and then click **Finish**.

Installing Terminal Services Client Access Licenses

There are three methods by which you can install Terminal Services client access licenses (TS CALs) onto your license server by using the Install Licenses Wizard in the TS Licensing Manager tool:

- **Internet (Automatic)** This method requires Internet connectivity from the computer running TS Licensing Manager. Internet connectivity is not required from the license server itself. This method uses TCP/IP (TCP Port 443) to connect directly to the Microsoft Clearinghouse.
- **Web** You can use the Web method when the computer running TS Licensing Manager does not have Internet connectivity, but you have access to the Web by means of a Web browser from another computer. The URL for the Web installation method is displayed in the Install Licenses Wizard.

- **Telephone** The telephone method allows you to talk to a Microsoft customer service representative to complete the installation process. The appropriate telephone number is determined by the country/region that you chose in the Activate Server Wizard and is displayed by the wizard.

Before installing TS CALs onto your license server, note the following:

- You must activate your Terminal Services license server before you can install TS CALs onto your license server. For more information, see [Activating a Terminal Services License Server](#).
- You will need a license code to install TS CALs onto your license server. A license code is provided when you purchase your TS CALs. For more information, see Purchase Client Access Licenses (<http://go.microsoft.com/fwlink/?LinkID=81077>).

Additional references

- [Installing Terminal Services Client Access Licenses Automatically](#)
- [Installing Terminal Services Client Access Licenses by Using a Web Browser](#)
- [Installing Terminal Services Client Access Licenses by Using the Telephone](#)

Installing Terminal Services Client Access Licenses Automatically

The automatic installation method requires Internet connectivity from the computer running TS Licensing Manager to complete the Terminal Services client access license (TS CAL) installation process. Internet connectivity is not required from the license server itself. This method uses TCP/IP (TCP Port 443) to connect directly to the Microsoft Clearinghouse.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To install Terminal Services client access licenses automatically

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Verify that the connection method for the Terminal Services license server is set to **Automatic connection (recommended)** by right-clicking the license server on which you want to install TS CALs, and then clicking **Properties**. On the **Connection Method** tab, change the connection method if necessary, and then click **OK**.
3. In the console tree, right-click the Terminal Services license server on which you want to install the TS CALs, click **Install Licenses** to open the Install Licenses Wizard, and then click **Next**.
4. On the **License Program** page, select the appropriate program through which you purchased your TS CALs, and then click **Next**.

5. The **License Program** that you selected on the previous page in the wizard will determine what information you will need to provide on this page. In most cases, you will have to provide either a license code or an agreement number. Consult the documentation provided when you purchased your TS CALs.
6. After you have entered the required information, click **Next**.
7. On the **Product Version and License Type** page, select the appropriate product version, license type, and quantity of TS CALs for your environment based on your TS CAL purchase agreement, and then click **Next**.
8. The Microsoft Clearinghouse is automatically contacted and processes your request. The TS CALs are then automatically installed onto the license server.
9. On the **Completing the Install Licenses Wizard** page, click **Finish**. The Terminal Services license server can now issue TS CALs to clients that connect to a terminal server.

Installing Terminal Services Client Access Licenses by Using a Web Browser

The Web method can be used to complete the Terminal Services client access license (TS CAL) installation process when the computer running the TS Licensing Manager tool does not have Internet connectivity, but you have access to the Web by means of a Web browser from another computer. The URL for the Web installation method is displayed in the Install Licenses Wizard.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To install Terminal Services client access licenses by using a Web browser

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Verify that the connection method for the Terminal Services license server is set to **Web Browser** by right-clicking the license server on which you want to install TS CALs, and then clicking **Properties**. On the **Connection Method** tab, change the connection method if necessary, and then click **OK**.
3. In the console tree, right-click the Terminal Services license server on which you want to install the TS CALs, click **Install Licenses** to open the Install Licenses Wizard, and then click **Next**.
4. On the **Obtain Client License Key Pack** page, click the hyperlink to connect to the Terminal Server Licensing Web site.

If you are running TS Licensing Manager on a computer that does not have Internet connectivity, note the address for the Terminal Server Licensing Web site, and then

connect to the Web site from a computer that has Internet connectivity.

5. On the Windows Terminal Services Web page, under **Select Option**, click **Install Client Access License tokens**, and then click **Next**.
6. Provide the following required information:
 - **License Server ID** A 35-digit number, in groups of 5 numerals, which is displayed on the **Obtain Client License Key Pack** page in the Install Licenses Wizard.
 - **License Program** Select the appropriate program through which you purchased your TS CALs.
 - Last name or surname
 - First name or given name
 - Company name
 - Country/region

You can also provide the optional information requested, such as company address, e-mail address, and phone number. In the organizational unit field, you can describe the unit within your organization that this license server will serve.

7. Click **Next**.
8. The **License Program** that you selected on the previous page will determine what information you will need to provide on this page. In most cases, you will have to provide either a license code or an agreement number. Consult the documentation provided when you purchased your TS CALs. In addition, you will need to specify which type of TS CAL (for example, Windows Server 2008 TS Per Device CAL) and the quantity that you want to install on the license server.
9. After you have entered the required information, click **Next**.
10. Verify that all of the information that you have entered is correct. To submit your request to the Microsoft Clearinghouse, click **Next**. The Web page then displays a license key pack ID generated by the Microsoft Clearinghouse.



Important

Retain a copy of the license key pack ID. Having this information with you will facilitate communications with the Microsoft Clearinghouse should you need assistance with recovering TS CALs.

11. In the Install Licenses Wizard, on the **Obtain Client License Key Pack** page, enter the license key pack ID that you received in the previous step in the boxes provided, and then click **Next**. The TS CALs are installed on your Terminal Services license server.
12. On the **Completing the Install Licenses Wizard** page, click **Finish**. The Terminal Services license server can now issue TS CALs to clients that connect to a terminal server.

Installing Terminal Services Client Access Licenses by Using the Telephone

The telephone installation method allows you to talk to a Microsoft customer service representative to complete the Terminal Services client access license (TS CAL) installation process. The appropriate telephone number is displayed in the Install Licenses Wizard and is determined by the country/region that you have specified.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To install client access licenses by using the telephone

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Verify that the connection method for the Terminal Services license server is set to **Telephone** by right-clicking the license server on which you want to install TS CALs, and then clicking **Properties**. On the **Connection Method** tab, change the connection method if necessary. On the **Required Information** tab, change the country/region if necessary, and then click **OK**.
3. In the console tree, right-click the Terminal Services license server on which you want to install the TS CALs, click **Install Licenses** to open the Install Licenses Wizard, and then click **Next**.
4. On the **Obtain client license key pack** page, use the telephone number that is displayed to call the Microsoft Clearinghouse, and give the representative your Terminal Services license server ID and the required information for the licensing program through which you purchased your TS CALs. The representative then processes your request to install TS CALs, and gives you a unique ID for the TS CALs. This unique ID is referred to as the license key pack ID.



Important

Retain a copy of the license key pack ID. Having this information with you will facilitate communications with the Microsoft Clearinghouse should you need assistance with recovering TS CALs.

5. In the Install Licenses Wizard, on the **Obtain client license key pack** page, enter the license key pack ID provided by the representative into the boxes provided, and then click **Next**. The TS CALs are installed on your Terminal Services license server.
6. On the **Completing the Install Licenses Wizard** page, click **Finish**. The Terminal Services license server can now issue TS CALs to clients that connect to a terminal server.

Configuring License Settings on a Terminal Server

After you have installed and configured the Terminal Services license server, you need to configure your terminal server by doing the following:

- [Specifying the Terminal Services licensing mode](#)
- [Specifying the license server discovery mode](#)

Specifying the Terminal Services licensing mode

The Terminal Services licensing mode determines the type of Terminal Services client access licenses (TS CALs) that a terminal server will request from a license server on behalf of a client connecting to the terminal server.

Important

The Terminal Services licensing mode configured on a terminal server must match the type of TS CALs available on the license server.

For more information about TS CALs, see [Terminal Services Client Access Licenses \(TS CALs\)](#).

The Terminal Services licensing mode for the terminal server can be set in the following ways:

- During the installation of the Terminal Server role service in Server Manager, on the **Specify Licensing Mode** page in the **Add Roles Wizard**.
On the **Specify Licensing Mode** page, you can select **Configure later** if you are unsure during the installation whether to select **Per Device** or **Per User**. If you select **Configure later**, each time you log on as an administrator to the terminal server, a message will appear in the lower-right corner of the desktop reminding you that you need to configure the licensing mode for the terminal server.
- By configuring the **Terminal Services licensing mode** for the terminal server by using the Terminal Services Configuration tool.
If the **Specify the Terminal Services licensing mode** choices are dimmed and you cannot make a selection, the **Set Terminal Services licensing mode** Group Policy setting has been enabled and has been applied to the terminal server.
- By applying the **Set Terminal Services licensing mode** Group Policy setting.
This Group Policy setting is located in **Computer Configuration\Administrative Templates\Windows Components\Terminal Services\Terminal Server\Licensing** and can be configured by using either the Local Group Policy Editor or the Group Policy Management Console (GPMC). Note that the Group Policy setting will take precedence over the setting configured in Terminal Services Configuration.

For more information about Group Policy settings for Terminal Services, see the Terminal Services Technical Reference (<http://go.microsoft.com/fwlink/?Linkid=89673>).

Use the following procedure to specify the Terminal Services licensing mode on a terminal server by using Terminal Services Configuration.

Membership in the local **Administrators** group, or equivalent, on the computer that you plan to configure, is the minimum required to complete this procedure.

► **To specify the Terminal Services licensing mode on a terminal server by using Terminal Services Configuration**

1. On the terminal server, open Terminal Services Configuration. To open Terminal Services Configuration, click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **Terminal Services Configuration**.
2. Under **Licensing**, double-click **Terminal Services licensing mode**.
3. Select either **Per Device** or **Per User**, depending on which is appropriate for your environment, and then click **OK**.

Specifying the license server discovery mode

A terminal server must be able to contact (discover) a Terminal Services license server in order to request Terminal Services client access licenses (TS CALs) for users or computing devices that are connecting to the terminal server.

The license server discovery mode for the terminal server can be set in the following ways:

- By configuring **License Server discovery mode** for the terminal server in the Terminal Services Configuration tool.
If the **Specify the license server discovery mode** choices are dimmed and you cannot make a selection, the **Use the specified Terminal Services license servers** Group Policy setting has been enabled and has been applied to the terminal server.
- By applying the **Use the specified Terminal Services license servers** Group Policy setting.
This Group Policy setting is located in **Computer Configuration\Administrative Templates\Windows Components\Terminal Services\Terminal Server\Licensing** and can be configured by using either the Local Group Policy Editor or the Group Policy Management Console (GPMC). Note that the Group Policy setting will take precedence over the setting configured in Terminal Services Configuration.

For more information about the license server discovery process, see [Terminal Services License Server Discovery](#).

 **Important**

To see which license servers the terminal server discovers, and to be alerted to possible licensing discovery and configuration issues, use **Licensing Diagnosis** in Terminal Services Configuration. For more information about **Licensing Diagnosis**, see [Troubleshooting TS Licensing Installation](#).

For more information about Group Policy settings for Terminal Services, see the Terminal Services Technical Reference (<http://go.microsoft.com/fwlink/?Linkid=89673>).

Use the following procedure to specify the license server discovery mode on a terminal server by using Terminal Services Configuration.

Membership in the local **Administrators** group, or equivalent, on the computer that you plan to configure, is the minimum required to complete this procedure.

► **To specify the license server discovery mode on a terminal server by using Terminal Services Configuration**

1. On the terminal server, open Terminal Services Configuration. To open Terminal Services Configuration, click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **Terminal Services Configuration**.
2. Under **Licensing**, double-click **License server discovery mode**.
3. Select either of the following, depending on which is appropriate for your environment:
 - **Automatically discover a license server**
 - **Use the specified license servers**

For more information about the license server discovery process, see [Terminal Services License Server Discovery](#).

4. After you have made a selection, click **OK**.

Tracking the Issuance of Terminal Services Per User Client Access Licenses

In Windows Server 2008, you can use the TS Licensing Manager tool to create (generate) reports to track the TS Per User CALs that have been issued by a Terminal Services license server.

The following are important considerations about TS Per User CAL tracking and reporting in Windows Server 2008:

- TS Per User CAL tracking and reporting can only be used for Windows Server 2008 TS Per User CALs. You cannot track and report on Windows Server 2003 TS Per User CALs.
- TS Per User CAL tracking and reporting is supported only in domain-joined scenarios; that is, the terminal server and the license server must be members of a domain.
- TS Per User CAL tracking and reporting is not supported in workgroup mode.
- Active Directory Domain Services (AD DS) is used for TS Per User CAL tracking. The information about the TS Per User CAL that has been issued to a user is stored as part of the user account in AD DS.
- AD DS can be Windows Server 2008-based or Windows Server 2003-based.
- The computer account for the license server must be a member of the Terminal Server License Servers group in the domain. If the license server is installed on a domain controller,

the Network Service account must also be a member of the Terminal Server License Servers group.

Important

To issue TS Per User CALs to users in other domains, the license server must be a member of the Terminal Server License Servers group in those domains.

You can use **Review Configuration** to determine if the license server is correctly configured for TS Per User CAL tracking and reporting. For more information about **Review Configuration**, see [Troubleshooting TS Licensing Installation](#).

Because the information about the TS Per User CALs that have been issued to users is stored in AD DS, the only way to get the most current information about the TS Per User CALs that have been issued by the license server is to create a report by using TS Licensing Manager. When you create a report, the necessary information is pulled from AD DS and is compiled together into a report.

Note

Because TS Licensing Manager cannot dynamically update the number of TS Per User CALs that are currently issued and available, those columns are left blank in some areas of TS Licensing Manager. Instead there is a **Generate Report** hyperlink that takes you to this topic. In the **Report** node, you can view information from reports that have been created, but that information is specific to the date and time when the report was created.

Use the following procedure to create a report about the TS Per User CALs that have been issued by a license server.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To create a report about the TS Per User CALs that have been issued by a license server

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Select the license server for which you want to generate a report.
3. On the **Action** menu, point to **Create Report**, and then click **Per User CAL Usage**.
4. In the **Create Per User CAL Usage Report** dialog box, select one of the following:
 - **Entire domain** This is the domain in which the license server is a member.
 - **Organizational Unit** This is any OU within the domain in which the license server is a member.
 - **Entire domain and all trusted domains** This can include domains in other forests. Selecting this option can increase the time that it takes to create the report.

The selection that you make determines which user accounts in AD DS will be searched for TS Per User CAL information to generate the report.
5. Click **Create Report**. The report will be created and a message will appear to confirm

that the report was successfully created. Click **OK** to close the message.

6. The report that you created will appear in the **Reports** section under the node for the license server. The report provides the following information:
 - Date and time the report was created
 - The scope of the report (e.g., Domain, OU=Sales, or All trusted domains)
 - The number of TS Per User CALs that are installed on the license server
 - The number of TS Per User CALs that have been issued by the license server specific to the scope of the report
7. You can also save the report as a CSV file to a folder location on the computer. To save the report, right-click the report that you want to save, click **Save As**, and then specify the file name and location to save the report.

Reports that you create are listed in the **Reports** node under the node for the license server in TS Licensing Manager. If you no longer need a report, you can delete the report.

Use the following procedure to delete a report in TS Licensing Manager.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

To delete a report in TS Licensing Manager

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. Expand the **All Servers** node, expand the node for the license server for which the report was created, and then click **Reports**.
3. If there is a specific report that you want to delete, right-click the report, and then click **Delete Report**. To confirm that you want to delete the report, click **Yes**.
4. If you want to delete all the reports or only reports older than a certain number of days, on the **Action** menu, click **Delete Reports**.
5. In the **Delete Reports** dialog box, select either to delete all reports or only reports older than the number of days that you specify, and then click **OK**. The reports will be deleted immediately, and you will not be prompted to confirm the deletion.

Troubleshooting TS Licensing Installation

You can check the configuration of your Terminal Services license server and identify common licensing problems for a terminal server by using the following:

- **Review Configuration** in the TS Licensing Manager tool
- **Licensing Diagnosis** in the Terminal Services Configuration tool

Reviewing the configuration of your license server

After installing and configuring the TS Licensing role service on a Windows Server 2008 computer, you can use **Review Configuration** in the TS Licensing Manager tool to review the configuration of the license server. You can use **Review Configuration** to help identify possible TS Licensing configuration problems on the license server that would prevent the license server from doing the following:

- Being discovered by terminal servers.
- Issuing Terminal Services client access licenses (TS CALs) to users or devices connecting to a terminal server.
- Tracking and reporting the issuance of TS Per User CALs.



Note

Review Configuration is used to identify possible TS Licensing configuration problems on a license server, not configuration problems on a terminal server. To be alerted to possible licensing discovery and configuration issues on a terminal server, use **Licensing Diagnosis** in the Terminal Services Configuration tool. For information about **Licensing Diagnosis**, see [Diagnosing licensing problems on your terminal server](#).



Important

To use **Review Configuration**, the license server must be a member of an Active Directory domain.

The following is a list of some of the things that **Review Configuration** will check about the configuration of a license server:

- If the discovery scope for a license server is set to **Domain**, **Review Configuration** will check if the license server is installed on a domain controller.
- If the discovery scope for a license server is set to **Forest**, **Review Configuration** will check if the license server is published in Active Directory Domain Services (AD DS).
- If the discovery scope for a license server is set to either **Domain** or **Forest**, **Review Configuration** will check if the license server is a member of the Terminal Server License Servers group in AD DS.
- **Review Configuration** will check if the **License server security group** Group Policy setting is enabled and applied to the license server.



Note

For more information about the **License server security group** Group Policy setting, see "Control the Issuance of Terminal Services Client Access Licenses (TS CALs)" in the TS Licensing Manager Help in the Windows Server 2008 Technical Library (<http://go.microsoft.com/fwlink/?LinkId=107405>).

You can also change the discovery scope of the license server in **Review Configuration** by clicking **Change Scope**. For more information, see "Change the Discovery Scope of a Terminal

Services License Server" in the TS Licensing Manager Help in the Windows Server 2008 Technical Library (<http://go.microsoft.com/fwlink/?LinkId=107404>).

The location of the TS Licensing database is also shown in **Review Configuration**.

Use the following procedure to review the configuration of a license server by using TS Licensing Manager.

Membership in the local **Administrators** group, or equivalent, on the license server, is the minimum required to complete this procedure.

► **To review the configuration of a license server by using TS Licensing Manager**

1. Click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **TS Licensing Manager**.
2. In the left pane, click **All servers**. In the right pane, in the **Configuration** column, you will see either **OK** or **Review**. **Review** indicates that there is a possible configuration issue with the license server.
3. To review the configuration details of a license server, do one of the following:
 - Select the license server that you want to review, and then on the **Action** menu, click **Review Configuration**.
 - Right-click the license server that you want to review, and then click **Review Configuration**.
 - If **Review** is displayed in the Configuration column for a license server, click **Review**.
4. In the **Configuration** dialog box, a list of messages will provide you with information about the configuration of the license server and identify possible configuration issues. For certain configuration issues, you will be able to correct the problem from within the **Configuration** dialog box, if you have the appropriate administrative privileges. For example, if the license server is not published in AD DS and you have **Enterprise Admins** privileges in AD DS, you can click **Publish in AD DS** to correct the problem.

Diagnosing licensing problems on your terminal server

Terminal Services Configuration for Windows Server 2008 includes the Licensing Diagnosis tool. Licensing Diagnosis provides information to help identify possible licensing problems for the terminal server.

Each user or computing device that connects to a terminal server must have a valid Terminal Services client access license (TS CAL) issued by a Terminal Services license server.

A terminal server must be able to contact (discover) a Terminal Services license server in order to request TS CALs for users or computing devices that are connecting to the terminal server.

The primary purpose of Licensing Diagnosis is to determine which license servers the terminal server can discover and whether those license servers have TS CALs available to issue to users or computing devices that are connecting to the terminal server. In addition, Licensing Diagnosis

will try to identify any possible licensing problems and provide suggested resolutions to those problems.

Use the following procedure to run the Licensing Diagnosis tool.

Membership in the local **Administrators** group, or equivalent, is the minimum required to complete this procedure.

 **To run the Licensing Diagnosis tool**

1. Open Terminal Services Configuration. To open Terminal Services Configuration, click **Start**, point to **Administrative Tools**, point to **Terminal Services**, and then click **Terminal Services Configuration**.
2. In the left pane, click **Licensing Diagnosis**. Licensing Diagnosis will automatically run and try to discover license servers and identify licensing configuration problems, and then display the results.

There are four main sections to Licensing Diagnosis:

- **Terminal Server Configuration Details**, which displays configuration information about the terminal server, including the licensing mode and discovery mode that have been specified for the terminal server.
- **Licensing Diagnosis Information**, which displays any licensing problems that were identified along with suggested resolutions to the problems.
- **Terminal Services License Server Information**, which displays the license servers that were discovered by the terminal server.
- **License Server Configuration Details**, which displays configuration information about a license server, including the type and version of TS CALs installed and available on that license server.

To view the configuration details of a selected license server, the account that you are logged on as needs administrator privileges on the license server. If your account does not have administrator privileges on the license server, you can use **Provide Credentials** in the Licensing Diagnosis tool to provide credentials that have administrative privileges on the license server.

 **Important**

To view the configuration details of a Windows 2000 or a Windows Server 2003 license server, you must provide the credentials of the built-in local Administrator account on the license server. The credentials of any other account, even if that account has administrator privileges on the license server, will not allow you to view the configuration details.

Known Issues for TS Licensing Installation

The following are known issues related to the installation of TS Licensing in Windows Server 2008.

Issue 1	Installing TS Licensing with insufficient AD DS privileges
Issue details	<p>When you install the TS Licensing role service by using the Add Roles Wizard in Server Manager, the Installation Results page may show errors. These errors usually indicate a TS Licensing configuration issue, not an installation problem.</p> <p>These errors can occur if you do not have the appropriate privileges when installing TS Licensing. For example:</p> <ul style="list-style-type: none"> • If the computer on which you are installing TS Licensing is joined to a domain, you should perform the TS Licensing installation with an account that has Domain Admins privileges in Active Directory Domain Services (AD DS). If you do not install TS Licensing with an account that has Domain Admins privileges in AD DS, the TS Licensing installation may succeed, but you will see an error message on the Installation Results page because TS Licensing could not be properly configured after being installed. • If you want to configure the discovery scope for TS Licensing as Forest during the installation process, you should perform the TS Licensing installation with an account that has Enterprise Admins privileges in AD DS. If you do not install TS Licensing with an account that has Enterprise Admins privileges in AD DS, the TS Licensing installation may succeed, but you will see an error message on the Installation Results page because TS Licensing could not be properly configured after being installed.
Workaround (how you can fix the problem if you encounter it)	<p>If you see error messages on the Installation Results page:</p> <ul style="list-style-type: none"> • Determine if the Terminal Services

Issue 1	Installing TS Licensing with insufficient AD DS privileges
	<p>Licensing service is running. If it is running, the Installation Results page will confirm that TS Licensing installation succeeded but some configuration steps failed.</p> <p>After confirming that some configuration steps failed, you can do the following to correct the issues noted:</p> <ul style="list-style-type: none"> • Correct these problems, if you have the required privileges in AD DS, by using Review Configuration in the TS Licensing Manager tool. For more information, see Troubleshooting TS Licensing Installation. • Contact someone with Domain Admins privileges in AD DS to manually add the computer account for the license server to the Terminal Server License Servers group in AD DS. • Contact someone with Enterprise Admins privileges in AD DS to publish the license server in AD DS by using the instructions at http://go.microsoft.com/fwlink/?LinkId=107406.

Issue 2	Specifying an invalid database path during TS Licensing installation
Issue details	<p>While installing TS Licensing on Windows Server 2008 by using the Add Roles Wizard in Server Manager, you can specify an invalid database path for the TS Licensing database and you will be allowed to proceed through installation. You will not be alerted to the invalid TS Licensing database path because the Add Roles Wizard does not validate the path. At the end of the installation, the TS Licensing installation may succeed, but you will see an error message on the Installation Results page.</p>

Issue 2	Specifying an invalid database path during TS Licensing installation
Workaround	<p>The TS Licensing database path must be a local folder on the computer on which TS Licensing is being installed.</p> <p>If you enter an invalid TS Licensing database path, the database will automatically be installed to the default database path location (system32\lserver).</p> <p>The database path cannot be changed after TS Licensing has been installed.</p> <p>To avoid this issue, on the Configure Discovery Scope for TS Licensing page in the Add Roles Wizard in Server Manager, use the Browse button and select the appropriate folder on the local computer.</p>

Issue 3	Unattended installation limits database and discovery scope options
Issue details	<p>If you install TS Licensing by using unattended installation, the following limitations exist:</p> <ul style="list-style-type: none"> • TS Licensing will be installed with the default database path. It is not possible to specify another database path. • The discovery scope of TS Licensing cannot be specified. The discovery scope will be either Domain or Workgroup, depending on whether the computer is joined to a domain. Because the discovery scope cannot be set to Forest, the license server will not be published in AD DS, which will limit which terminal servers will be able to automatically discover the license server. • The computer account for the license server will not be automatically added to the Terminal Server License Servers group in AD DS if the computer is joined to a domain. This will prevent the license server

Issue 3	Unattended installation limits database and discovery scope options
	<p>from being able to track and report on Terminal Services Per User client access licenses (TS Per User CALs).</p>
Workaround	<p>To avoid these issues, we highly recommend that you use the Add Roles Wizard in Server Manager to install TS Licensing.</p> <p>If you have done an unattended installation of TS Licensing, you can do the following to correct the issues noted:</p> <ul style="list-style-type: none"> • The database path cannot be changed after TS Licensing has been installed. • If you do not have the required privileges, contact someone with Enterprise Admins privileges in AD DS to publish the license server in AD DS by using the instructions at http://go.microsoft.com/fwlink/?LinkId=107406. • If you do not have the required privileges, contact someone with Domain Admins privileges in AD DS to manually add the computer account for the license server to the Terminal Server License Servers group in AD DS.

Issue 4	Uninstalling TS Licensing with insufficient AD DS privileges
Issue details	<p>If you uninstall TS Licensing by using the Remove Roles Wizard in Server Manager by using an account with insufficient AD DS privileges, the following issues will occur:</p> <ul style="list-style-type: none"> • The license server is not unpublished from AD DS. • The computer account for the license server is not removed from the Terminal Server License Servers group in AD DS. • The folder for the TS Licensing database is not removed.

Issue 4	Uninstalling TS Licensing with insufficient AD DS privileges
Workaround	<p>To avoid these issues, uninstall TS Licensing by using an account with sufficient AD DS privileges.</p> <p>Otherwise, you can do the following to correct the issues noted:</p> <ul style="list-style-type: none"> • If you do not have the required privileges, contact someone with Enterprise Admins privileges in AD DS to unpublish the license server in AD DS by using the instructions at http://go.microsoft.com/fwlink/?LinkId=107407. • If you do not have the required privileges, contact someone with Domain Admins privileges in AD DS to manually remove the computer account for the license server from the Terminal Server License Servers group in AD DS. • Manually delete the folder that contains the TS Licensing database.