

PecStar® iEMS v3.s

Installation Guide

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Safety Information

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please Note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by CET Electric Technology for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Document Conventions

The command conventions that may be found in this document are defined as follows.

Convention	Description
Boldface	Buttons, menus, parameters, tabs, window, and dialog titles are in boldface . For example, click OK .
>	Multi-level menus are in boldface and separated by the ">" signs. For example, choose File > Create > Folder .
<i>Italic</i>	Documents links are in <i>italics</i> . For example, see <i>User Guide</i> for details.
Courier New	Command arguments you may type in the blank. For example, input <code>http://host_name/virtual directory</code> in the address.

Update History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

Date	Version	Description
2013-03-18	V1.0	Initial commercial release.

Introduction

This guide is intended for Consumers, Application Engineers, third-party integrators, or other qualified personnel who are responsible for configuring and installing PecStar® iEMS Integrated Energy Management System V3.5 software and preparing the servers on which it is installed. Experience using previous versions of PecStar® software is preferable.

The guide contains information about installing SQL Server 2008 editions and a PecStar® iEMS Integrated Energy Management System V3.5, incorporating best practices and factory-recommended procedures to help reduce the need for ongoing support and to improve the reliability of the installation.

A typical installation consists of a computer or network of computers running PecStar software, and one or more networks of devices (such as basic energy meters, multi-function monitoring/analysis/control devices, and/or intelligent relays).

Note

Services personnel and fully-commissioned PecStar servers are also available — please contact CET Electric Technology for details.

Summary of Topics in This Guide

The topics in this guide provide the following information:

- **Supported operating systems and SQL Server editions**

Summarizes the combinations of 32-bit and 64-bit Windows operating systems and SQL Server editions on which PecStar can be installed. (See the *System Design Guide* for information about hardware requirements.)

- **Recommended Server Specifications**

Provides the recommended server specifications for a PecStar iEMS V3.5 system based on number of sites, devices, data points and module configurations.

- **Preparing the server**

Describes the steps required to install a supported Windows operating system and SQL Server edition and the settings required for each. Note that this information is common for PecStar installations of a Database Server (standalone or redundancy), a SCADA Server, an Engineering Client, a Data Server and a Web Server.

- **Standard installation**

Describes the steps required to install Standard Edition PecStar with all modules on a single computer hosting standalone Server. Or install specific modules to be a Database Server, a SCADA Server, a Data Server or a Client Workstation.

- **Additional PecStar software**

Describes the steps to install and use PecStar extended components, such as the usage of Web Client, the steps to install Demo Edition.

- **Post-installation tasks**

Describes the tasks that you may need to perform after completing the installation of the software.

Supported Operating Systems and SQL Server Editions

The following table summarizes the supported combinations of 32-bit and 64-bit versions of Microsoft Windows operating systems and SQL Server editions.

For 32-bit Operation Systems,

32-bit Windows Operating Systems	32-bit Microsoft SQL Server Versions	Database Server (Standalone)	Database Server (Redundancy)	Report Service Module ¹
Windows Server 2003 Standard Editions, SP2	SQL Server 2005 Express Edition with Advanced Services	✓	x	x
	SQL Server 2005 Standard Edition	✓	✓	x
Windows 7 Ultimate/Professional Editions	SQL Server 2005 Express Edition with Advanced Services	✓	x	x
	SQL Server 2005 Standard Editions	✓	✓	x
	SQL Server 2008 R2 Standard Editions, SP1	✓	✓	✓
	SQL Server 2008 Express Edition with Advanced Services	✓	x	x
Windows Server 2008 Standard Editions	SQL Server 2005 Express Edition with Advanced Services	✓	x	x
	SQL Server 2005 Standard Edition	✓	✓	x
	SQL Server 2008 Express Edition with Advanced Services	✓	x	x
	SQL Server 2008 R2 Standard Editions, SP1	✓	✓	✓

For 64-bit Operation Systems,

64-bit Windows Operating Systems	32/64-bit Microsoft SQL Server Versions	Database Server (Standalone)	Database Server (Redundancy)	Report Service Module
Windows 7 Ultimate Editions	SQL Server 2008(32-bit) Express Edition with Advanced Services	✓	x	x
	SQL Server 2008 R2 (64-bit) Standard Editions, SP1	✓	✓	✓
Windows Server 2008 R2 Standard Editions, SP1	SQL Server 2008(32-bit) Express Edition with Advanced Services	✓	x	x
	SQL Server 2008 R2(64-bit) Standard Editions, SP1	✓	✓	✓
	SQL Server 2012(64-bit) Standard Edition	✓	✓	x

¹ **Report Service Module** is a component for PecStar Web Access.

Other PecStar Modules, such as Data Acquisition Module, Client Workstation Module, Data Server and Web Server, are all supported on the operating systems mentioned above.

PecStar can be installed in virtual environments with a supported combination of Windows operating system and SQL Server edition. It is recommended that you copy the content of the PecStar disk to a local drive in your virtual environment and double-click setup.exe to start the installation process.

Web Client computers provide access to the Web Applications component of PecStar. Microsoft Internet Explorer version 7.0, 8.0, or 9.0, and network connectivity to a PecStar Web Server are required. Web Clients can use Windows Server 2003, Windows 7, or Windows Server 2008 operating systems for this purpose.

To access Web Applications from a Web Client, enter an address in the following format in your browser:

`http://host_name/virtual directory`

where *host_name* is the computer name or IP address of the PecStar Web Server. For example, for computer name **MyComputer** and virtual directory **PecStarWeb**, enter the address in the browser as:

`http://MyComputer/PecStarWeb`

For the local PecStar Web Server, you can enter the following address as well:

`http://localhost/PecStarWeb`

Recommended Server Specifications

The following table provides the recommended server specifications for a PecStar iEMS V3.5 system based on number of sites, devices, data points and module configurations.

No. of Devices	No. of Sites	No. of datalog and report data sources	Windows Operation System	Database Engine	Specifications (Minimum)
1-100	1-8	<=2000	Windows 7 Professional/Ultimate	SQL Server 2008/2012 Express	CPU:2.0GHZ RAM:2GB HD:100GB Network Card: Dual port Gigabit Ethernet
100-200	9-20	2000-4000	Windows 7 Professional/Ultimate Windows Server 2008 Standard	SQL Server 2008 /2012 Standard	CPU:2.0-3.0GHZ RAM:4-8GB HD:100-400GB Network Card: Dual port Gigabit Ethernet
200-800	20-80	4000-16000	Windows 7 (64-bit) Professional/Ultimate Windows Server 2008 (64-bit) Standard	SQL Server 2008 (64-bit)/2012 (64-bit) Standard/Enterprise	CPU:2.5-3.0GHZ RAM:4-8GB HD:100-400GB Network Card: Dual port Gigabit Ethernet
>=800	>=80	>=16000	Windows 7 (64-bit) Professional/Ultimate Windows Server 2008 (64-bit) Standard	SQL Server 2008 (64-bit)/2012 (64-bit) Standard/Enterprise	CPU:2.5-3.0GHZ RAM:4-16GB HD:100-400GB Network Card: Dual port Gigabit Ethernet

Preparing the Server

The PecStar Installer performs many of the setup and configuration tasks during installation to ensure that the prerequisites for your PecStar network are met.

The topics described in this section are:

- [Naming the Server](#) on page 10
- [Enable Web Performance](#) on page 10
- [Tasks Performed by the Installer](#) on page 11
- [Additional Information for Consideration](#) on page 11
- [Firewall Configuration](#) on page 12

Complete the following before proceeding with a PecStar installation.

Configuring the Operating System

Ensure that you log on to Windows 7 or Windows Server 2008 as the Administrator of the system and not just as a user with administrator privileges.

Naming the Server

Assign a computer name for the server that conforms to Windows naming conventions. A computer name can be up to 15 alphanumeric characters with no blank spaces. The name must be unique on the network and must not contain the special characters such as:

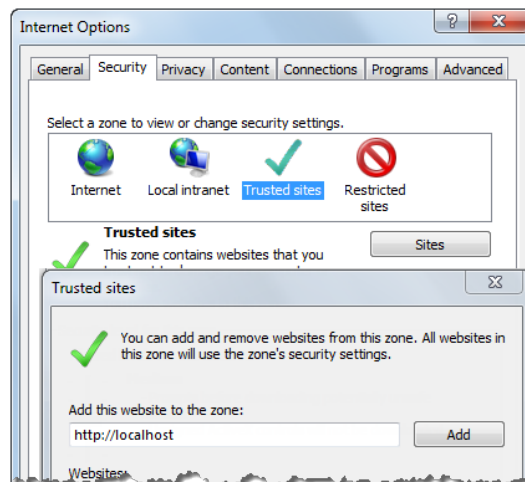
~ ! @ # \$ % ^ & * () + = [] { } \ | : ; ' " , < > / ?

For compatibility with PecStar software, use only letters and numbers, starting the name with a letter for the first character in the name.

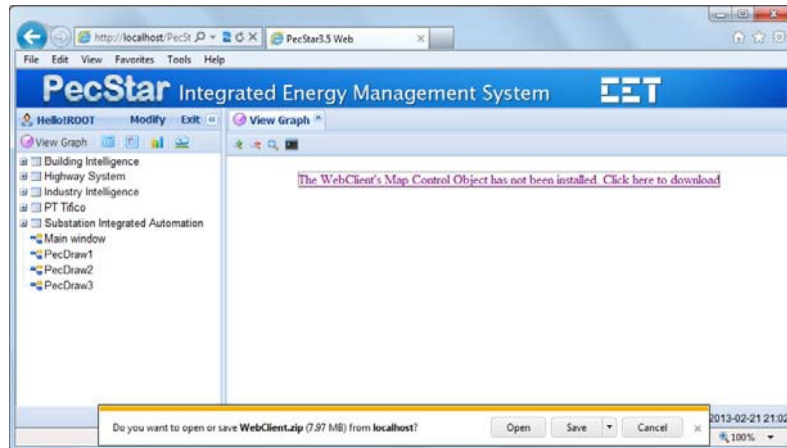
Enable Web Performance

To view graphs on PecStar Web sites via IE7.0, 8.0 or 9.0, you need to **Download PecStar Web Client, and Add the address into Trusted Sites**. Note that the same settings need to be enabled on any computer that is used to view PecStar Web sites.

1. Select **Tools > Internet Option > Security Enable** and add the address into Trusted sites:



2. **Download PecStar Web Client.** Open or Save the WebClient.zip and click setup.exe to start the Installation.



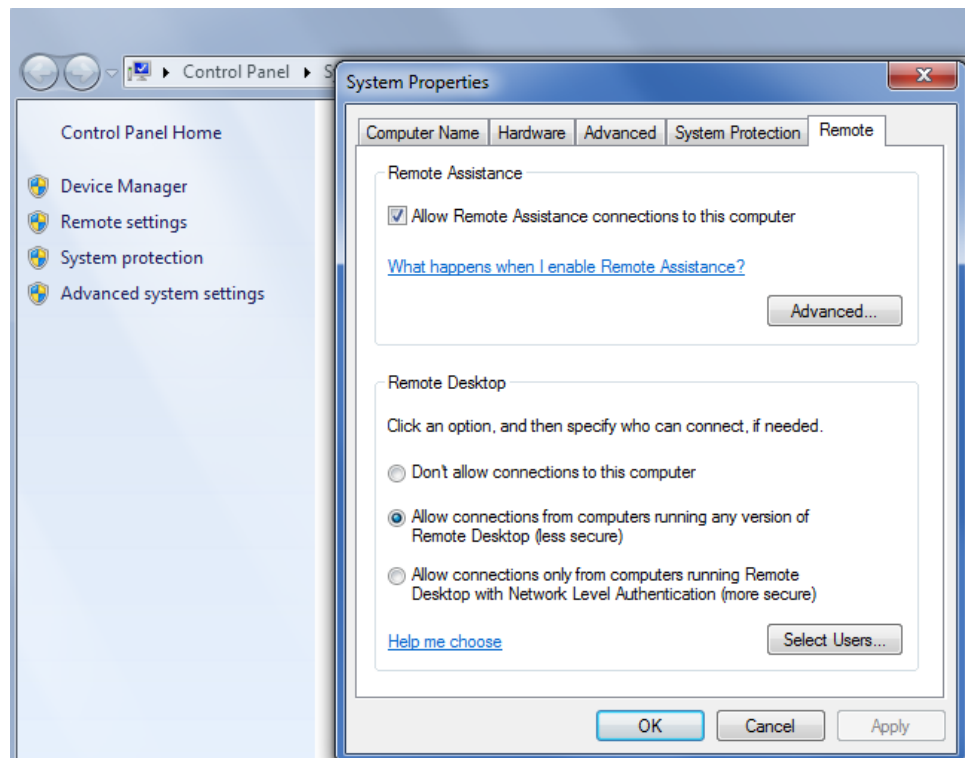
Note

It is necessary to install Web Client for viewing graphics. Otherwise, the images would not display and will show a blank.

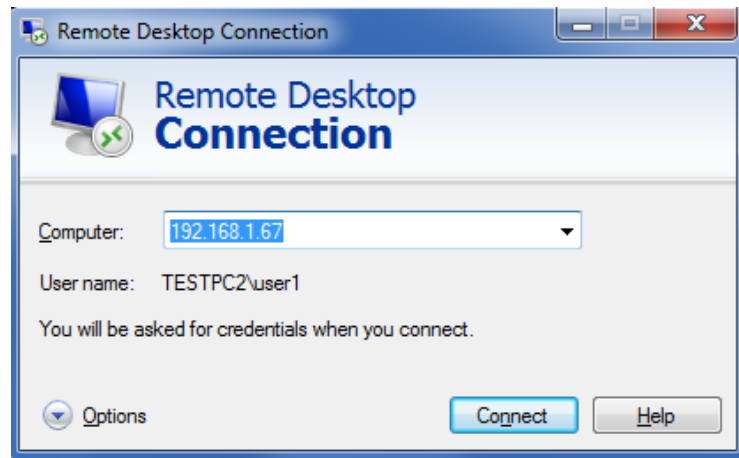
Enable Remote Connection

The settings are used for Redundant and Hot Standby PecStar System.

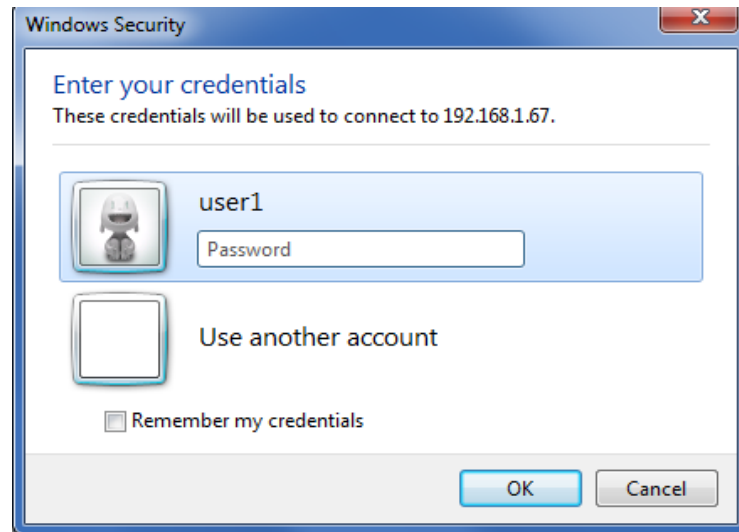
1. Open **Start** on Windows. Right click **Computer** and select **Properties**. Click **Remote Setting, Remote, Allow connections from computers running any version of Remote Desktop(less secure)** and then select **OK**.



2. Open **Start** on Windows. Input **remote** on **Search programs and files box**. Select **Remote Desktop Connection**. Input the IP address of wanted remote desktop and select **Connect**.



3. Select the user account you want to log in and input your credentials. Then select **OK**. (The remote accounts for a Redundant and Hot Stand-by PecStar System should be administrators and password is necessary.)



Tasks Performed by the Installer

The PecStar Installer performs the following tasks prior to the installation of the software:

- Checks for the appropriate version of Windows installer, .NET Framework, Visual C++ 2010 Running Time Library and Flash Player. Initiates the installation if required.
- Validates the Dongle or Authorization File.
- Checks that adequate disk space is available for the files that are written to the hard disk.
- Validates that a supported Windows operating system version and service pack level are installed.
- Verifies that a supported SQL Server edition and service pack level are installed.
- Verifies the connection to the SQL Server.
- Verifies that the SQL Server Authentication is chosen and the administrator (sa) account

- permissions is defined.
- Installs IIS (Internet Information Services) before you use Web component. Install IIS 6 Management Compatibility for IIS 7 and above. See *PecStar Web Guide* for details.

Additional Information for Consideration

- Only Windows Server operating system can be set as the Time Server. Others like Windows 7 or Windows XP are unable to sync the computer clock of Clients.
- Configure Remote Desktop Connection if you require remote connection to the PecStar Server.
- Use Windows Update service to install the latest security patches and hotfixes from Microsoft.

Firewall Configuration

Use the Microsoft knowledgebase to learn about Well Known Ports and Registered Ports required for certain networks.

PecStar TCP/UDP port assignments

The following tables contain the TCP and UDP port assignments that PecStar and associated applications or services use to communicate with devices, PecStar Clients and other PecStar servers.

Port	Purpose
TCP: 11634 UDP: 1434	Used for System Configuration
TCP: 3210,3113,3111	Used for Data Acquisition on SCADA Server
TCP: 11634 UDP: 1434	Used for Data Processing on Data Server
TCP: 3210,3111, 3113 ,11634	Used for Graph Design and Graph View on Client Workstation
UDP: 123	W32Time Service uses this port to adjust time on Time Server
TCP: 11634 UDP: 1434	Used for Database Maintenance, Device Installation. Report, Trend, Event and Waveform Query Design on Client Workstation
TCP: 3210,3111,3113	Used for sending Mails of Events and Reports
TCP: 502	Used for Modbus TCP communications
TCP: 11634 UDP: 1434	Used for Database Server of SQL Server
TCP: 11634 UDP: 1434	Used for Web Server

Other required ports

Port	Purpose
TCP: 1433	Microsoft SQL Server uses this port. ¹
TCP: 1434	Microsoft SQL Monitor uses this port to identify named database instances.
TCP: 139 UDP: 137, 138	Microsoft Windows uses this port to share folders and printers in network.
¹ SQL Server uses this port if you use the default instance when you install PecStar. If you use a named instance when you install PecStar, it is recommended that you configure the named instance to use port 1433.	

Installing SQL Server

If you install the Standard Edition of PecStar, or the databases on a separate database server, you must perform the Database Server installation first. The database server installation must be performed locally (remote installation is not supported).

The following information describes the settings that are required to install SQL Server 2008 R2 Standard Edition.

The topics described in this section are:

- [Running anti-virus software on your SQL Server](#) on page 14
- [Setting SQL Server memory options](#) on page 14
- [Installing SQL Server 2008 R2 Standard Edition](#) on page 16
- [Updating an existing SQL Server installation for use by PecStar](#) on page 25

If you install the Demo Edition of PecStar, you don't need to install SQL Server for PecStar will install a SQL Server Express 2008 automatically on the computer. See the *Demo Edition of PecStar iEMS V3.5* for details.

Running Anti-virus Software on the SQL Server

It is recommended that you assess the software security requirements of your organization, and specifically the potential risks to your SQL Server installation. If you determine that you need to run anti-virus software on your SQL Server as a result of your assessment, follow the recommendations described in Microsoft Support article (ID: 309422) at <http://support.microsoft.com/kb/309422>.

Setting SQL Server Memory Options

Generally, there is no need to modify the SQL Server memory after installation if your computer has adequate disk space for PecStar's historical data storage.

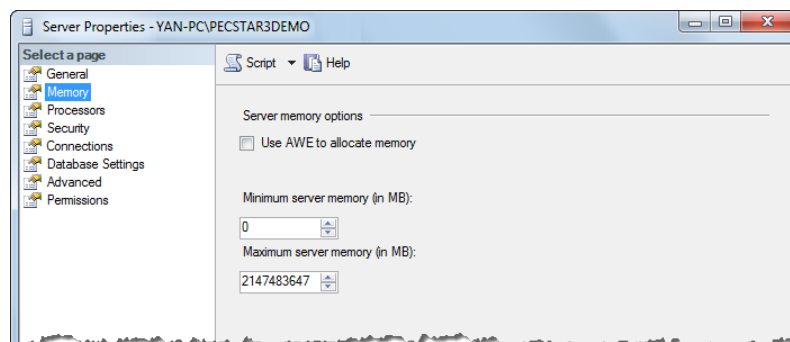
Two situations for setting SQL server memory options after you install the SQL Server 2008:

- For installations where the SQL Server is the only process running on the host server, set the SQL Server maximum memory at the system physical memory less at least 2GB for the Windows operating system.
- For installations where the SQL Server is sharing the host server with other server processes, including SACADA Server, Client Workstation, and other services, set the SQL Server maximum memory to no more than half the physical memory on the server.

In addition to setting the maximum memory option, consult with your site administrator to determine whether or not to enable the **Lock pages in memory** permission setting in Windows for the SQL service account on all SQL Server 2008 instances.

To set the maximum memory setting for your SQL Server:

1. Start **SQL Server Management Studio** and log in to your SQL Server instance.
2. Right-click the SQL Server name and click **Properties** in the menu to open the **Server Properties** dialog.
3. Select **Memory** in the left pane and adjust the value in the **Maximum server memory** field.



4. Click **OK** to apply the changes and close the dialog.
5. Close **SQL Server Management Studio**.
6. Reboot your server.

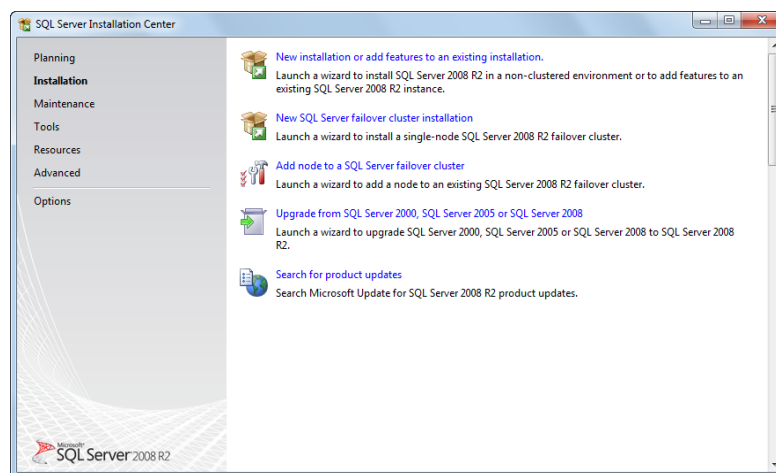
To enable the lock pages in memory option:

1. Click **Start > Run** and type `gpedit.msc` in the **Run** dialog to open the **Local Group Policy Editor**.
2. In the left pane, navigate to **Computer Configuration > Windows Settings > Security Settings > Local Policies**.
3. Expand **Local Policies** and select **User Rights Assignment**.
The policies are listed in the right pane.
4. Locate **Lock pages in memory** in the list and double click the policy name to open the **Lock pages in memory Properties** dialog.
5. Click **Add User or Group** on the **Local Security Setting** tab.
6. Add an account with the privileges to run `sqlserver.exe` and click **OK** to close the dialog.
7. Click **OK** to close the **Local Group Policy Editor**.
8. Reboot your server.

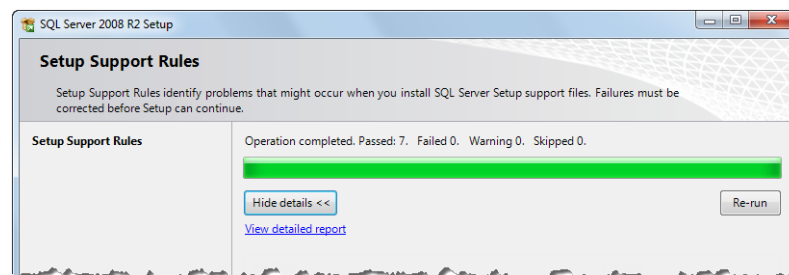
Installing SQL Server 2008 R2 Standard Edition

Before starting the Microsoft SQL Server installation, ensure that you are logged in as the Administrator and not just as a user with administrator privileges.

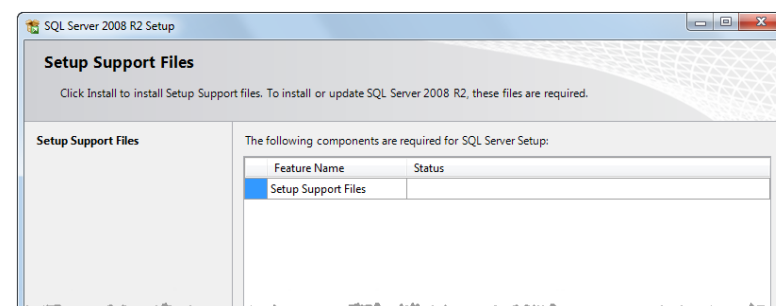
1. Make sure that no other programs are running. Save your work and close any open applications.
2. Insert the SQL Server 2008 Installation DVD in your DVD drive. If the **SQL Server Installation Center** does open automatically, double-click setup.exe in the root directory on the DVD.
3. Click **OK** to install Microsoft .NET Framework if you are prompted to do so.
4. Select **Installation** in the left pane of the **SQL Server Installation Center** then select **New SQL Server or add features to an existing installation** in the right pane.



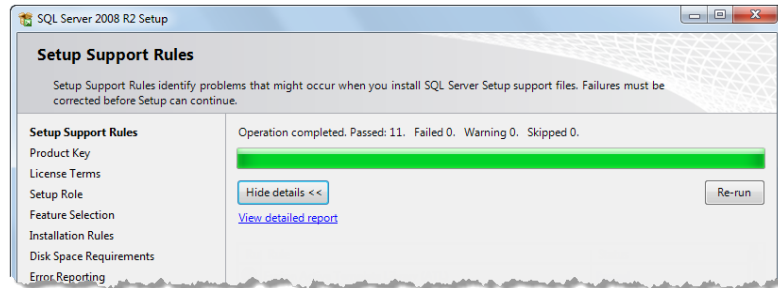
A message indicates that the process is starting, and then the **Setup Support Rules** page opens.



5. Click **OK** to proceed to the **Components Required** page.

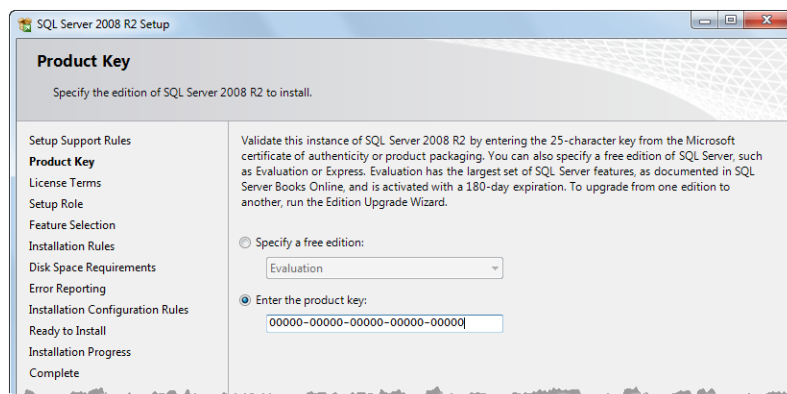


6. Select **Install** to **identify Setup Support Rules**.

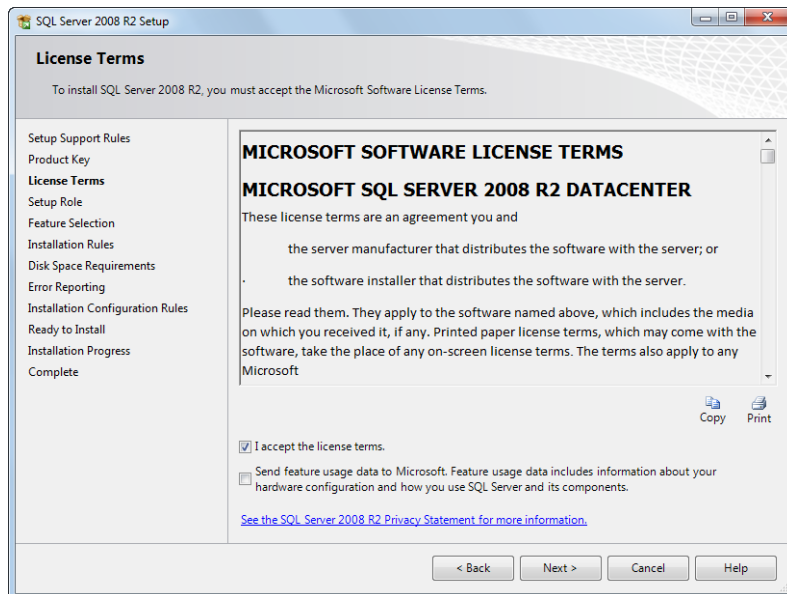


If all rules have been passed, click **Next** to proceed to the **Product Key** page.

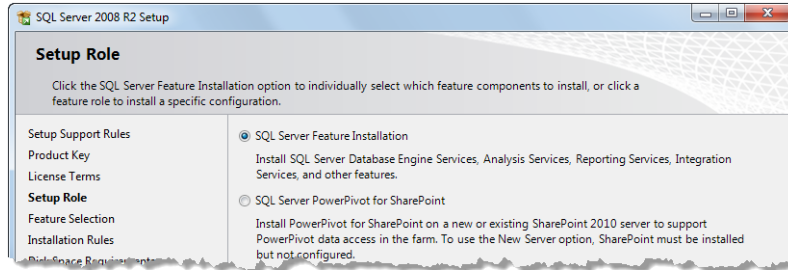
7. Select **Enter the product key**, type the product key in the field and click **Next**.



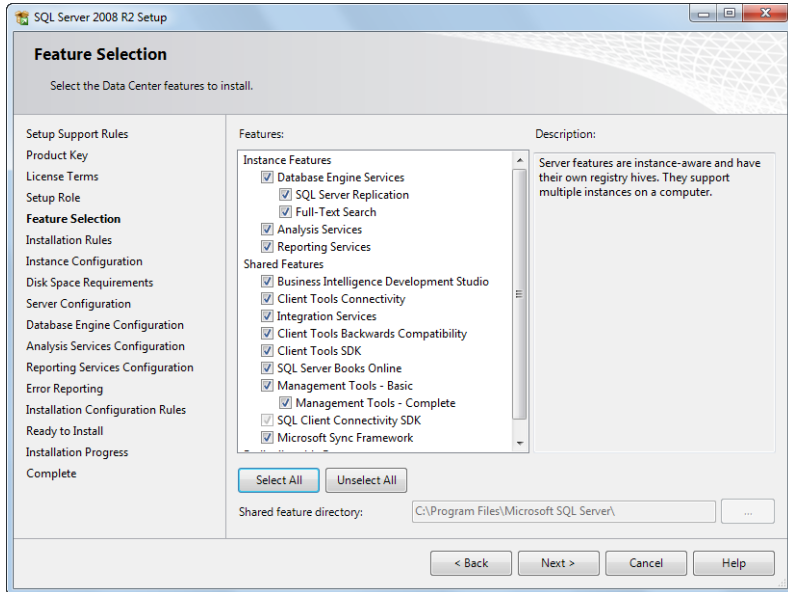
8. Select **I accept the license terms** on the **License Terms** page and click **Next**.



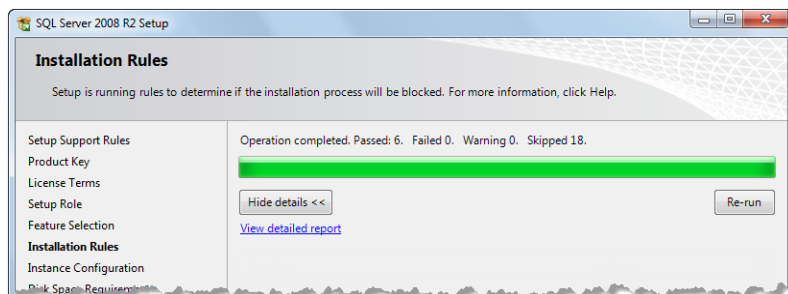
9. Select **SQL Server Feature Installation** and click **Next**.



10. Select **All** features on the **Feature Selection** page, then click **Next**.



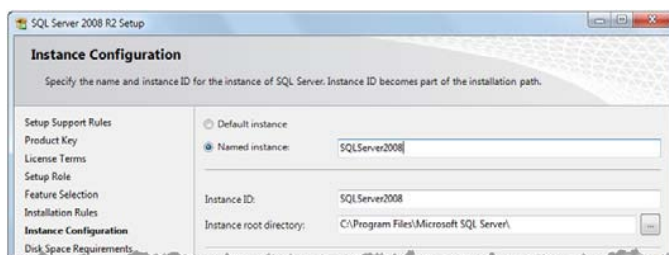
11. The **Setup Support Rules** page opens after the installation of the files showing their validation results. Click **Show details** to view a list of the rules that were validated.



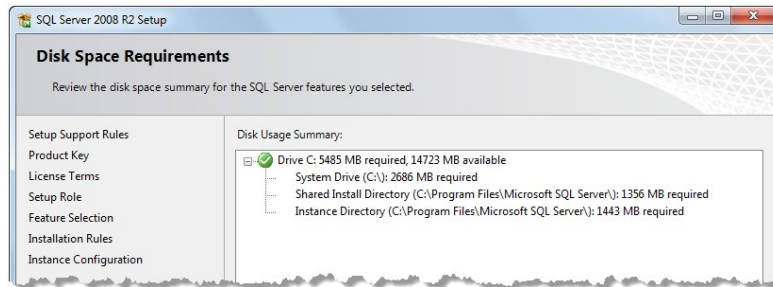
Upon successful completion, click **Next**.

12. Select **Default instance** or enter a name in the **Named instance** and click **Next**.

13. Do not use an underscore character (**_**) in the instance name.

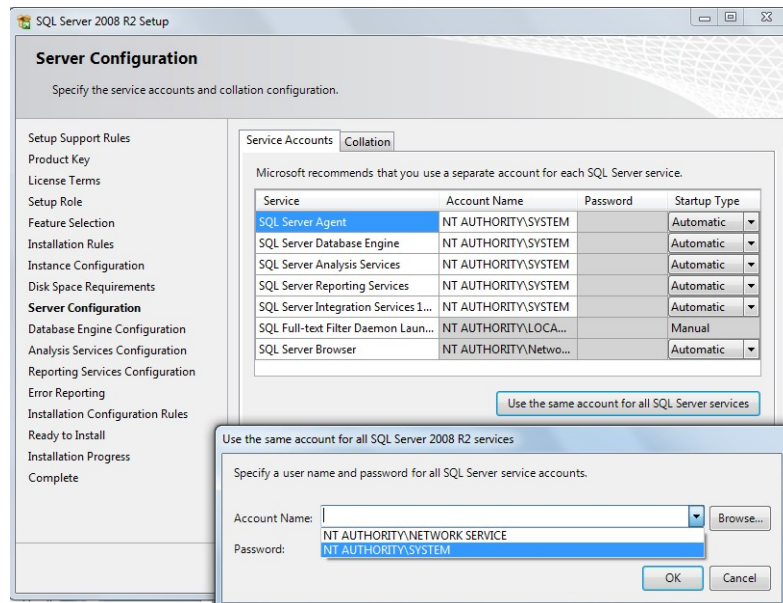


14. Click **Next** on the **Disk Space Requirements** page.



The disk space required for the installation is summarized in the **Disk Usage Summary** area on this page.

15. Select **Use the same account for all SQL services**, and click **Use the built-in System account** to open the dialog.

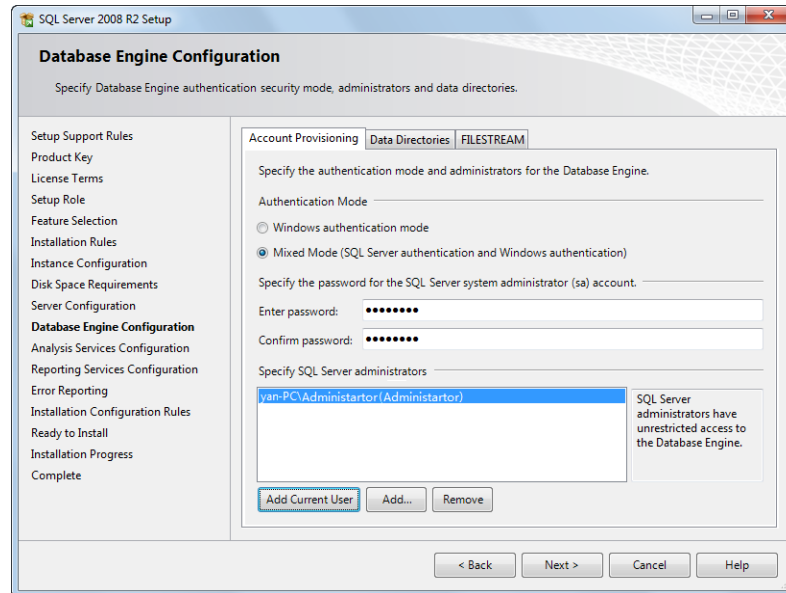


Select your local system account in the **Account Name** list, for example NT AUTHORITY\SYSTEM. A password is not required. Click **OK** to apply your selection.

Note

For both the Main and Stand-by Database Servers, the data sync function is available only if you select the **Automatic Startup Type** of SQL Server Agent.

16. Click **Next** to proceed to the **Database Engine Configuration** page.



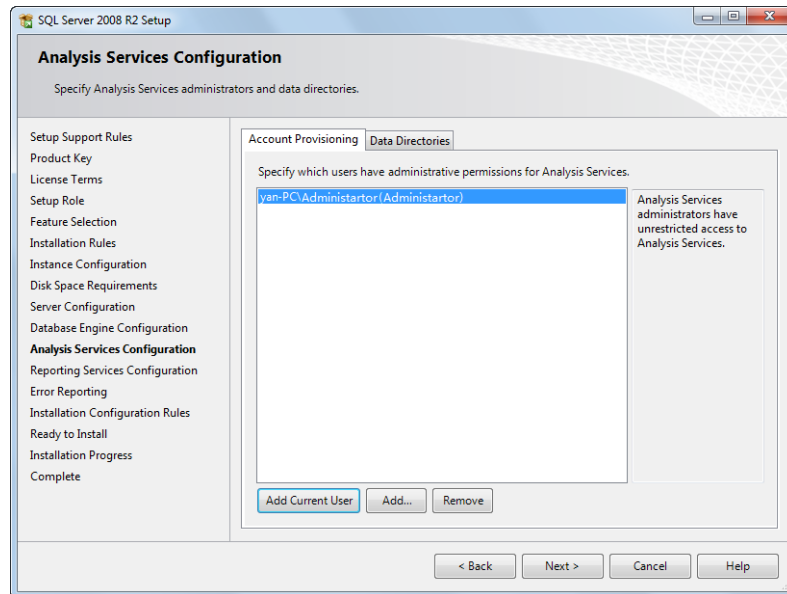
Select **Mixed Mode** and type a password for the SQL Server system administrator (sa) account in the **Enter password** and **Confirm password** fields. Click **Add Current User** to add the SQL Server Administrator, then click **Next**.

Note

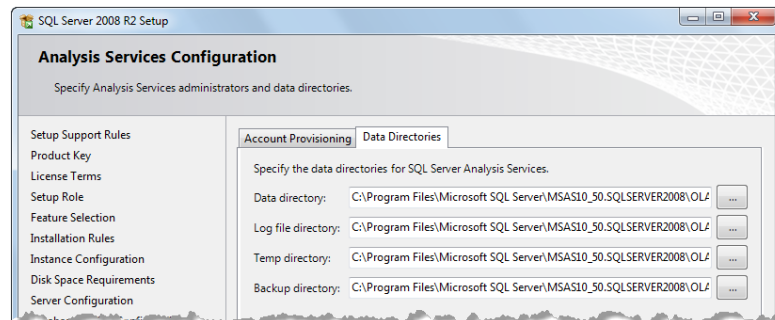
Use a strong password for the System Administrator account.

A strong password consists of at least 6 characters that are a combination of uppercase and lowercase letters, numbers, and symbols such as @, #, \$, %, etc.

17. On the **Account Provisioning** tab of the **Analysis Service Configuration** page, select **Add Current User**.



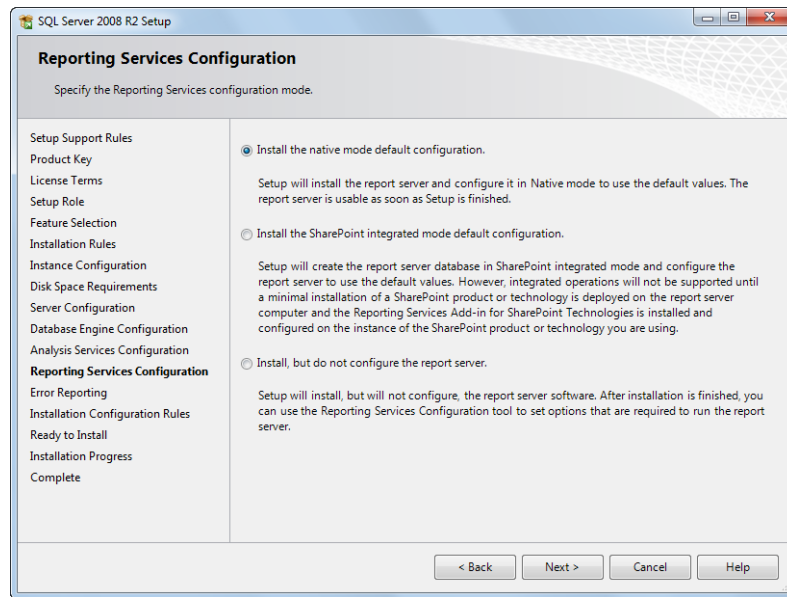
18. Use the directory fields on the **Data Directories** tab to specify a different drive for your Temp DB directory and Temp DB log directory, then click **Next** to proceed to the **Reporting Services Configuration** page.



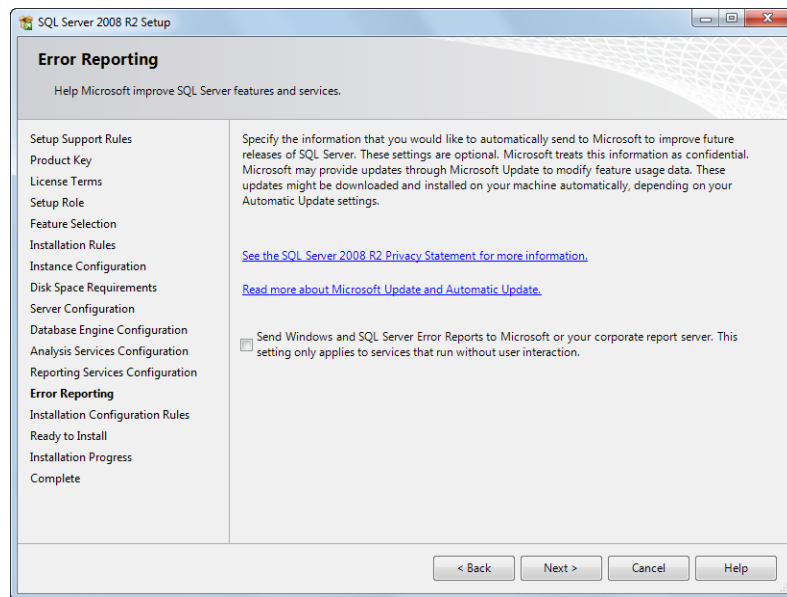
The specification of different drives is for performance reasons.

If all of the files are located on the same drive, data that is being inserted, updated, or deleted can potentially result in slower write operations than if the Temp DB directories are located on a separate drive. The specification of different drives is dependent on your hardware configuration and may not be possible in all cases.

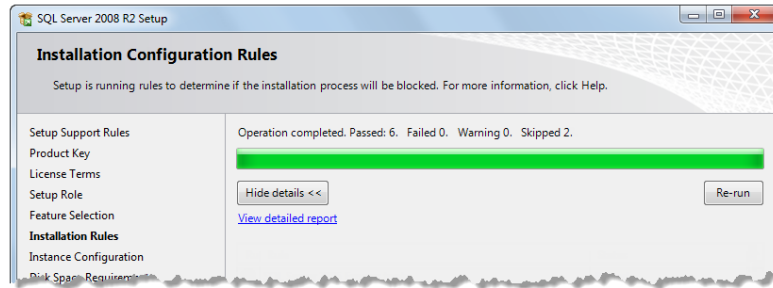
19. Select **Install the native mode default configuration** on the **Reporting Services Configuration** page and then click **Next**.



20. Click **Next** on the **Error Reporting** page.
There is no requirement for selecting the options on this page.

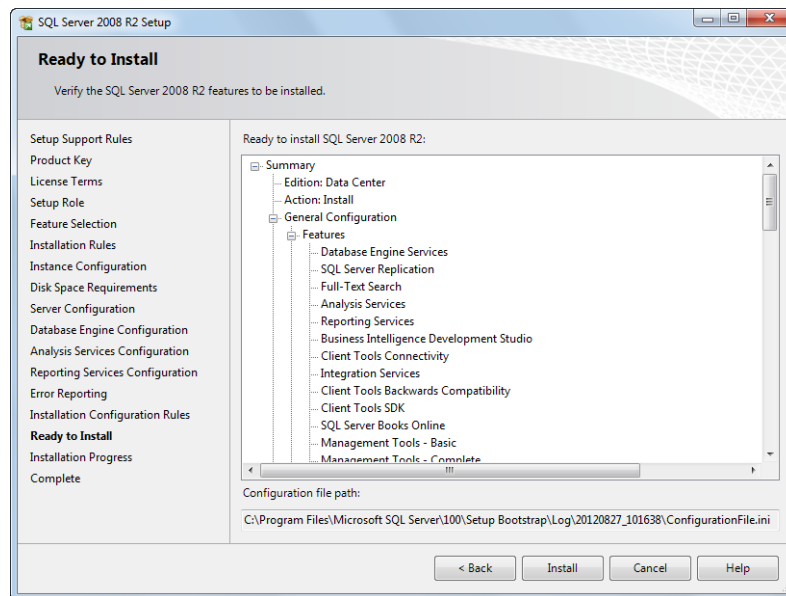


21. Click **Next** on the **Installation Configuration Rules** page.
The **Installation Rules** page shows the results of the validation that is performed to ensure that your installation can proceed.



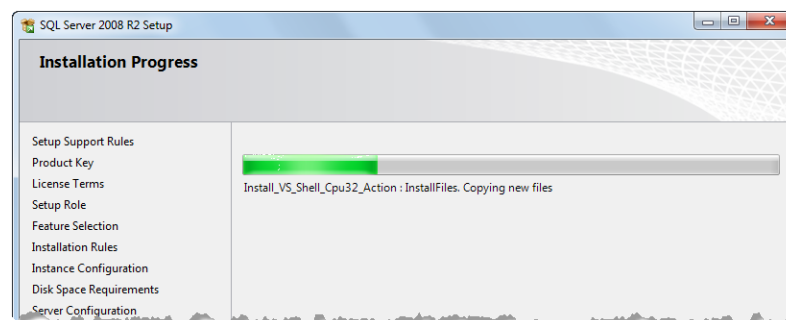
22. Click **Install** on the **Ready to Install** page.

The **Ready to Install** page shows the SQL Server features that are about to be installed.

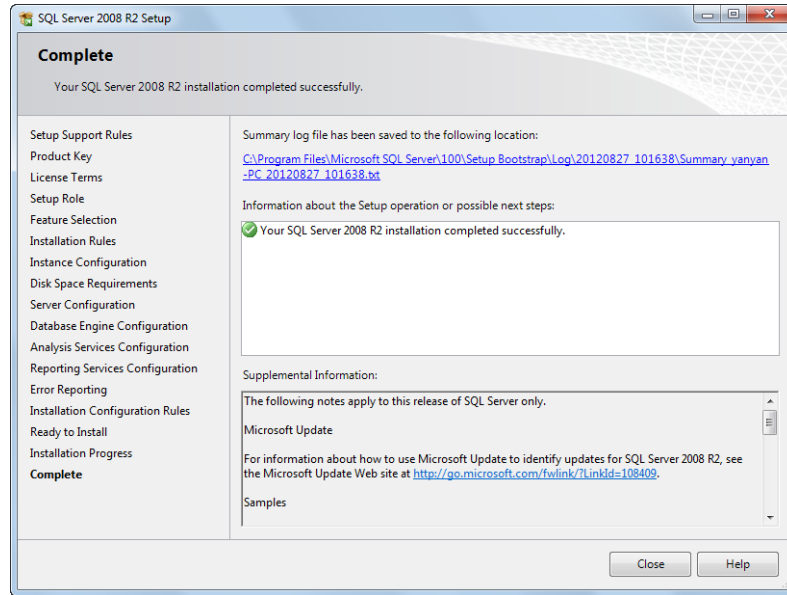


The Installer displays messages as the installation progresses. Any problems that occur during the installation are shown in the **Installation Progress** window.

23. The **Installation Progress** page provides an indication of the progress.



24. Click **Close** on the **Complete** page to return to the **SQL Server Installation Center**. And you may restart the computer to apply the changes.



The **Complete** page of the installation process contains a link to the Summary log, information about the Setup operations or possible next steps, and supplemental information related to your installation.

Next step

You can now install PecStar Standard Edition consisting of Database Server, SCADA Server, Client Workstation, Data Server, System Configuration and Database Maintenance modules.

Updating an Existing SQL Server Installation for Use by PecStar

If you want to configure a specific SQL Server instance for use by PecStar, you need to rerun the SQL Server installer.

Before starting the Microsoft SQL Server installation, ensure that you:

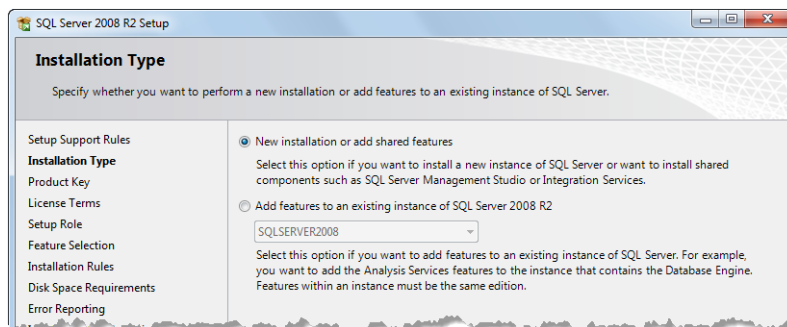
- Are logged in as the Administrator and not just as a user with administrator privileges.
- Have the SQL Server 2008 R2 installation media.

The steps to add and configure a new server instance are the same as those for [Installing SQL Server 2008 R2 Standard Edition](#). The exceptions are the steps related to the following SQL Server 2008 Setup pages:

- **Installation Type** page.
- **Feature Selection** page.
- **Instance Configuration** page.
- **Database Engine Configuration** page.

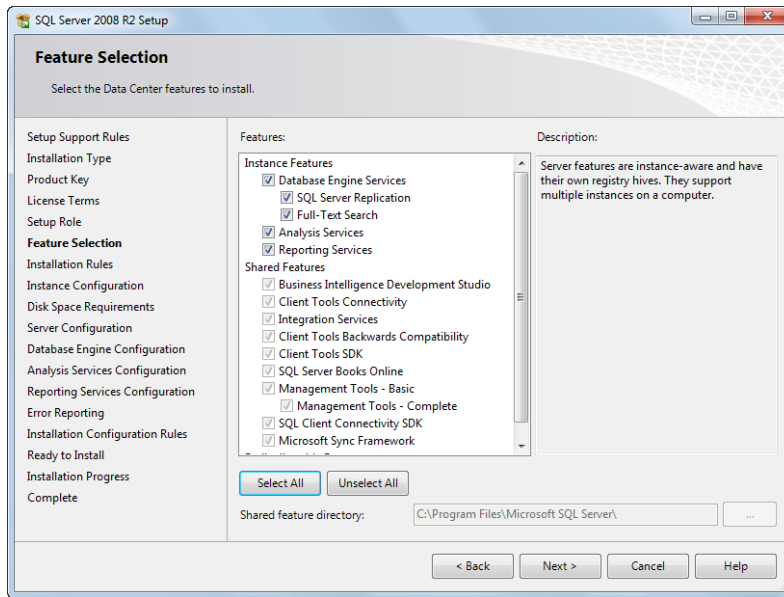
These pages are described in the following steps.

1. Follow the same directions for the following SQL Server 2008 Setup pages as those for installing SQL Server 2008 R2 Standard edition.
 - **Setup Support Rules** page.
 - **Setup Support Files** page.
2. Select **New installation or add shared features** on the **Installation Types** page and click **Next**.

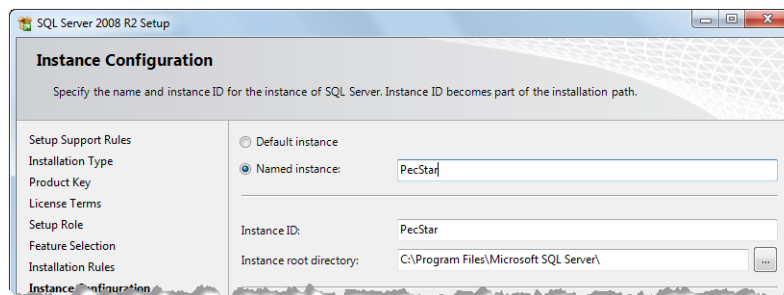


3. Follow the same directions for the following SQL Server 2008 Setup pages as those for installing SQL Server 2008 R2 Standard:
 - **Product Key** page.
 - **License Terms** page.
 - **Setup Role** page.

4. Select all features on the **Features Selection** page and click **Next**:



5. Follow the same directions for the **Installation Configuration** pages as that for installing SQL Server 2008 R2 Standard.
6. Select **Named instance** and enter a name on the **Instance Configuration** page and click **Next**.



Any existing instance names appear in the **Installed Instances** area on the page. And do not use an underscore character (`_`) in the instance name.

7. Follow the same directions for the rest of SQL Server 2008 Setup pages as those for installing SQL Server 2008 R2 Standard:
8. Close the **SQL Server Installation Center**.

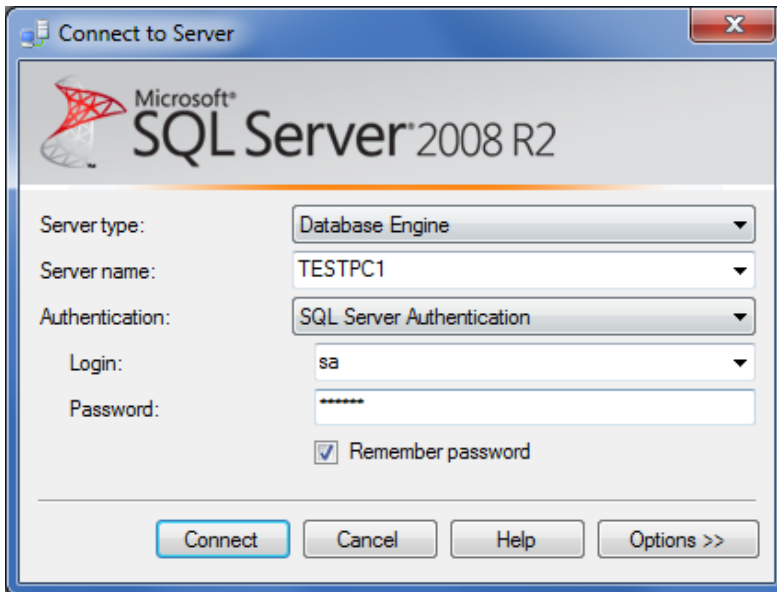
Next step

You can now install PecStar Standard Edition consisting of Database Server, SCADA Server, Client Workstation, Data Server, System Configuration and Database Maintenance modules.

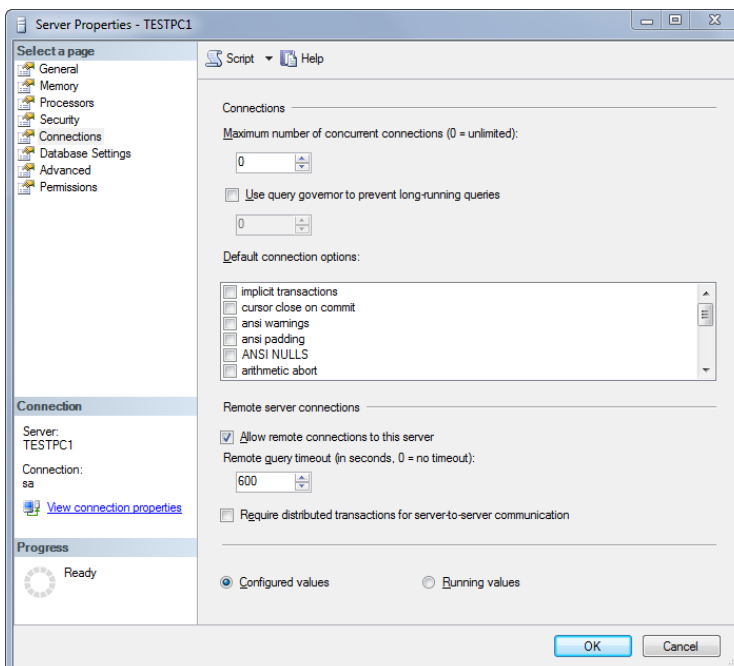
Setting for Remote SQL Server Database

If you want to build a Redundant and Hot Standby PecStar System, you need to enable some settings in SQL Server 2008 R2.

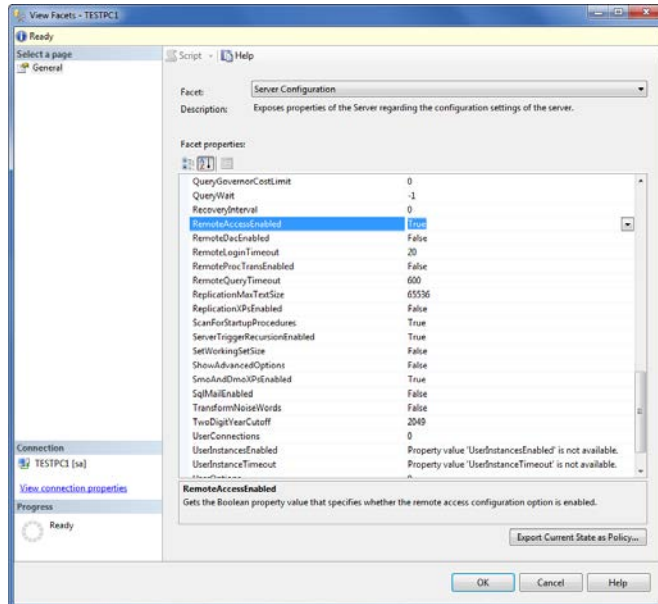
1. Open **Start** on the Windows. Select **all programs, Microsoft SQL Server 2008 R2, SQL Server Management Studio** in sequence. Input the server name, login ID, password and select **Connect**.



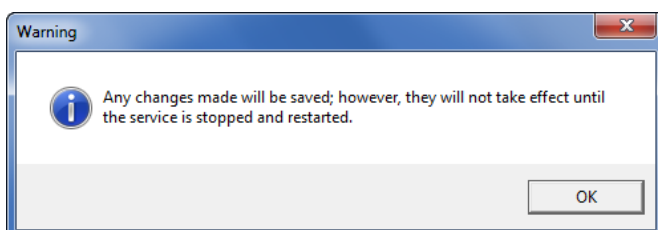
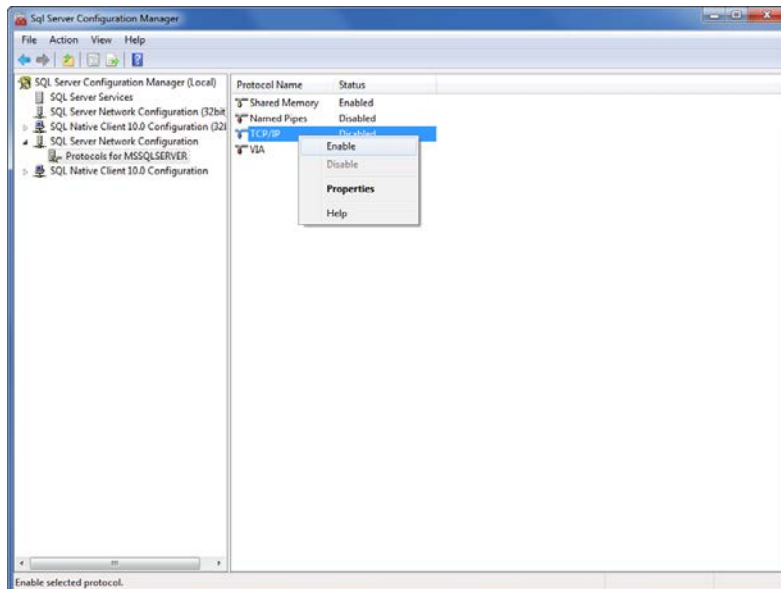
2. Right click on SQL Server in **Object Explorer** and select **Properties**. Select **Connections** and click **Allow remote connections to this server**. Then select **OK**.



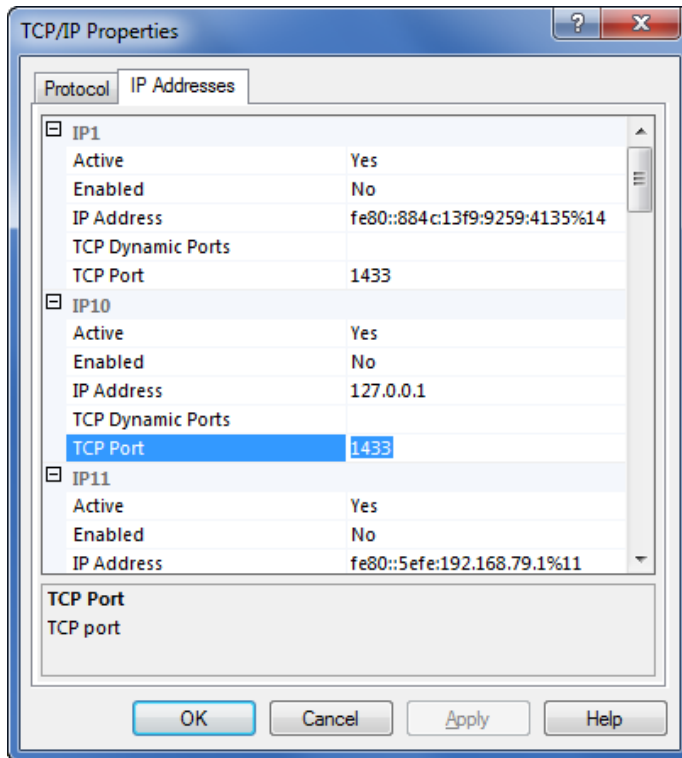
- Right click on the SQL Server in **Object Explorer** and select **Facets**. Change facets to **Server Configuration** and find **RemoteAccessEnabled** in Facet properties. Change the value to **True**. Then select **OK**.



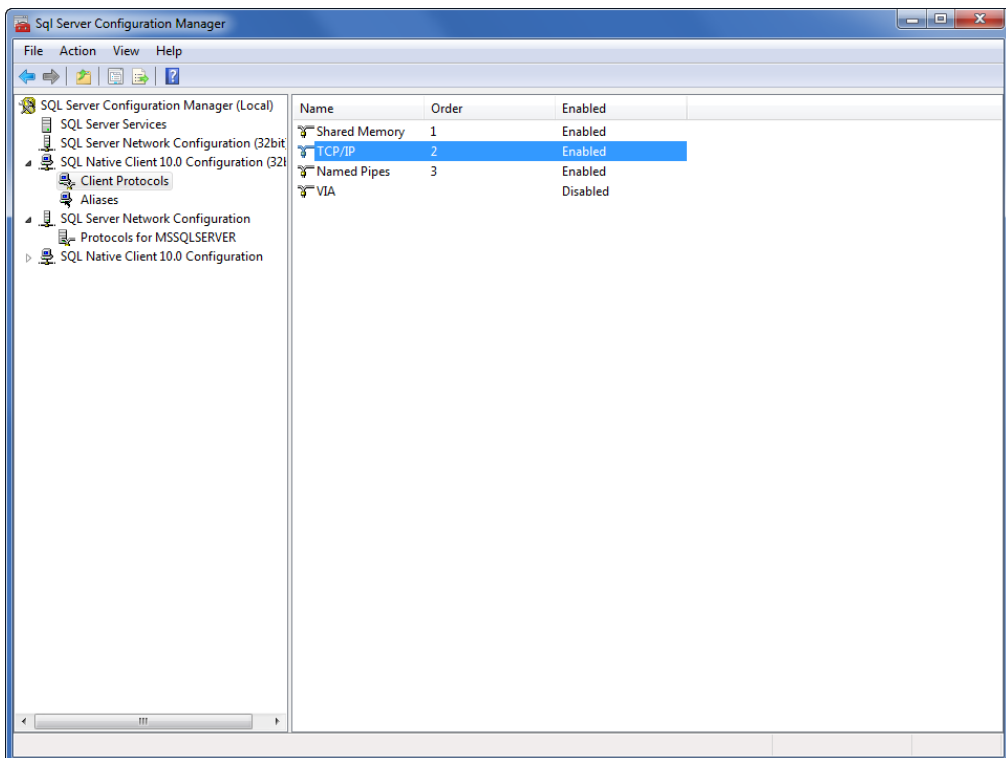
- Open **Start** on the Windows. Select **all programs, Microsoft SQL Server 2008 R2, Configuration Tools, SQL Server Configuration Manager** in sequence. Select **SQL protocols for MSSQLSERVER** in **SQL Server Network Configuration**, right click **TCP/IP**, select **Enable** and the warning box appears. Select **OK**.

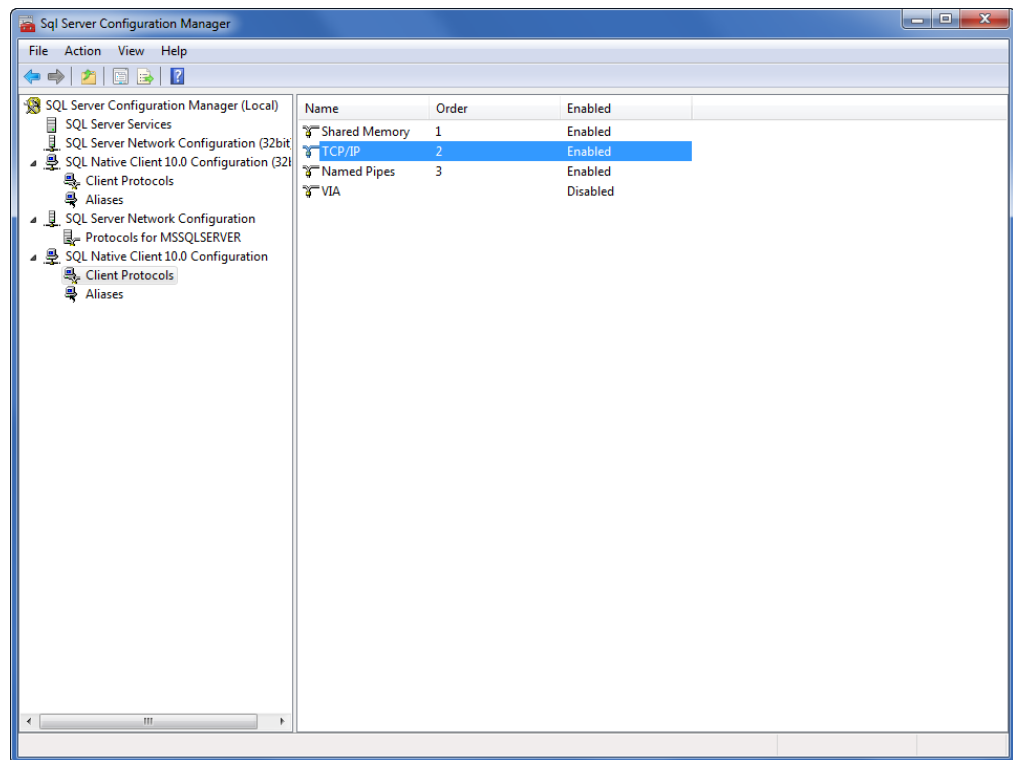


5. Right click on **TCP/IP** and select **Properties**. Change **TCP port** to **1433**. Then select **OK**.



6. Select Client Protocols in SQL Native Client 10.0 Configuration and SQL Native Client 10.0 Configuration, make sure both of the TCP/IP are Enabled.





- After all this, restart SQL Server 2008 R2 and repeat step1 to 6 on other computers in Redundant and Hot Standby PecStar System. (Please make sure SQL Server 2008 R2 is in your allow list of firewall.)

Standard Installation

A Standard Edition consists of all PecStar modules including configuration files and services that are required for the system to function, and a connection to a SQL Server instance for the PecStar databases.

Make sure your computer meets the operating system and SQL Server requirements summarized in [Supported operating systems and SQL Server editions](#). Perform the software installation directly on the server. Remote installation is not recommended.

The topics described in this section are:

- [Standard Installation Considerations](#) on page 28
- [PecStar Authorization Modes](#) on page 28
- [Installing the Standard Server](#) on page 30

Review the *System Design Guide* for information about planning for and setting up your system.

Standard Installation Considerations

Before proceeding with the Standalone Server installation, ensure that you completed the tasks described in the following topics:

- [Configuring your operating system](#)
- [Installing SQL Server](#), or if applicable, [Updating an existing SQL Server installation for use by PecStar](#).
- Verifies that the Authorization File or the Dongle is available, and the Dongle is inserted in the USB port of the computer.

PecStar Authorization Modes

PecStar iEMS V3.5 has two authorization modes: **File Authorization Mode** and **Dongle Authorization Mode**, which enable installation and performance of PecStar modules such as Database Server, SCADA Server, Data Server and Client Workstation.

PecStar will detect the Dongle or the authorization file during installation and performance.

Dongle Authorization Mode

A dongle is useful for those who use different computers on a regular basis. The PecStar will be authorized by checking the correspondence between the Dongle and the entered information.

Steps are as follows for the Dongle Authorization Mode:

1. Insert the Dongle in one of the USB ports of the computer.
2. Run PecStar Installation, select the Dongle Authorization Mode.
3. PecStar will detect and install the Dongle Driver automatically.
4. Input the Serial No. and Password of the Dongle.
5. After the authorization, you can now install PecStar modules.
6. Ensure the Dongle is connected to the USB port when running programs of Database Server, SCADA Server or Data Server.

Install the Dongle Driver

Generally, the Dongle Driver will be auto-installed during the PecStar Installation if you choose the Dongle Authorization Mode. Otherwise, if the driver isn't run automatically, you need to install the driver manually in PecStar Install Package.

Find Serial No. and Password

Each Dongle has a Serial No. and a corresponded Password. You can find the Serial Number and Password in the CET Electric Technology DVD.

Limits of Dongle usage

Each dongle can be authorized at most four times on different computers. And only the last computer can run PecStar. For each computer, a Dongle can be used to install PecStar as many times as you like.

Lost, Stolen or Faulty Dongles

When facing problems as follows, contact the CET Electric Technology Engineers for help:

- Dongle is missing.
- Serial No. or Password is missing.
- Dongle is out of use for four times.
- Dongle is destroyed and not available.
- Dongle driver cannot be correctly installed or dongle cannot be detected.

File Authorization Mode

An authorization file is useful for those who use the same computer to run PecStar or do not allow any USB device to be inserted in computers. The PecStar will be authorized with the Serial No. and the corresponded authorization file (swlic.dat) provide by CET Electric Technology.

Steps are as follows for the File Authorization Mode:

1. Run PecStar Installation, select the File Authorization Mode.
2. Copy the computer Characteristic Information, send it to the CET Electric Technology (srds@cet-electric.com). The engineer will send you the Serial No. and the authorization file (swlic.dat).
3. During the PecStar Installation, input the Serial No. and identify the authorization file path.
4. After the authorization, you can now install PecStar modules.

The authorization file is only available for the original computer and cannot be use on others. For one computer, PecStar can be installed as many times as you like.

Lost, Stolen or Faulty Authorization Files

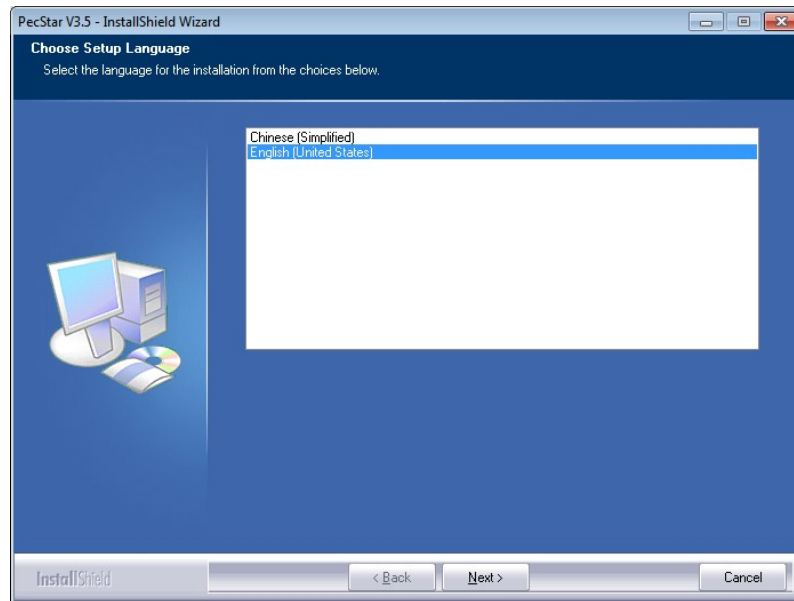
When facing problems as follows, contact the CET Electric Technology Engineers for help:

- Authorization file is missing.
- Serial No. is missing.
- PecStar cannot be correctly authorized with Serial Number and authorization file.

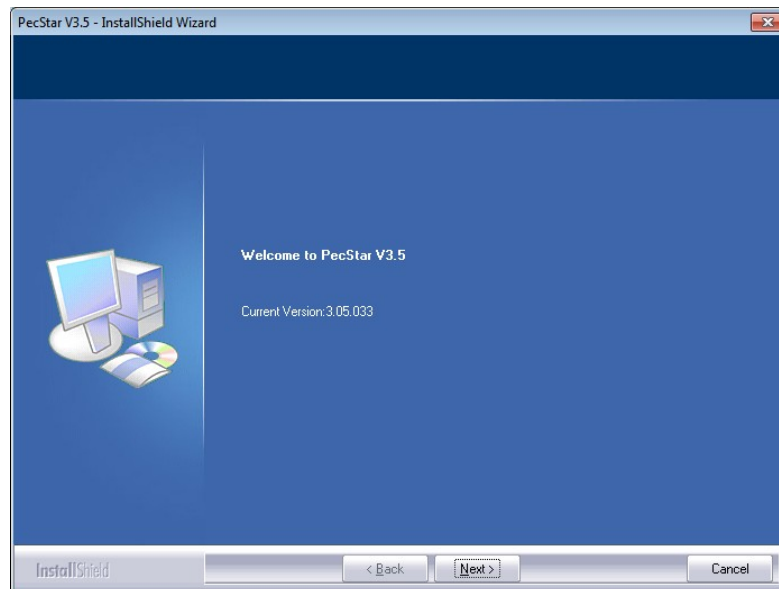
Installing the Standard Server

Start the installation process by inserting the PecStar DVD into the DVD drive. If it does not open automatically, use Windows Explorer to navigate to the DVD drive and double-click setup.exe.

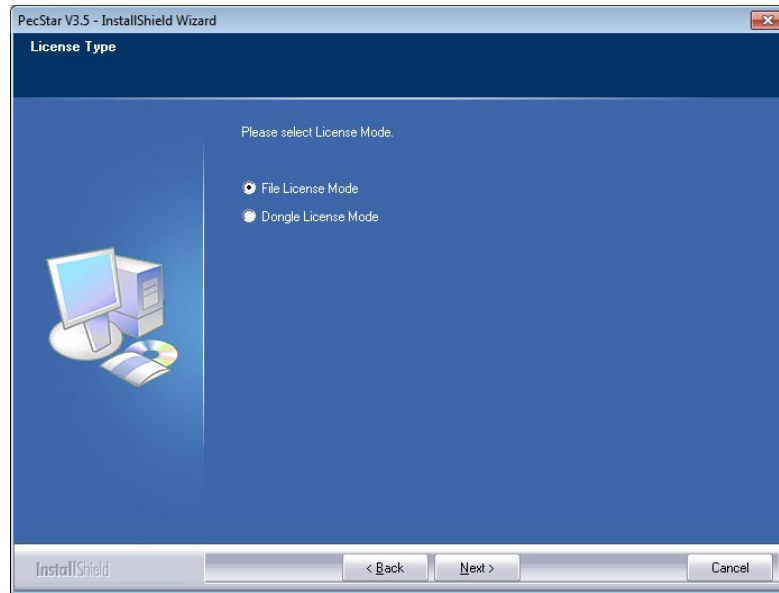
1. Select the **Setup Language** from the list and click **Next**.



2. The **Welcome** page appears, click **Next**.

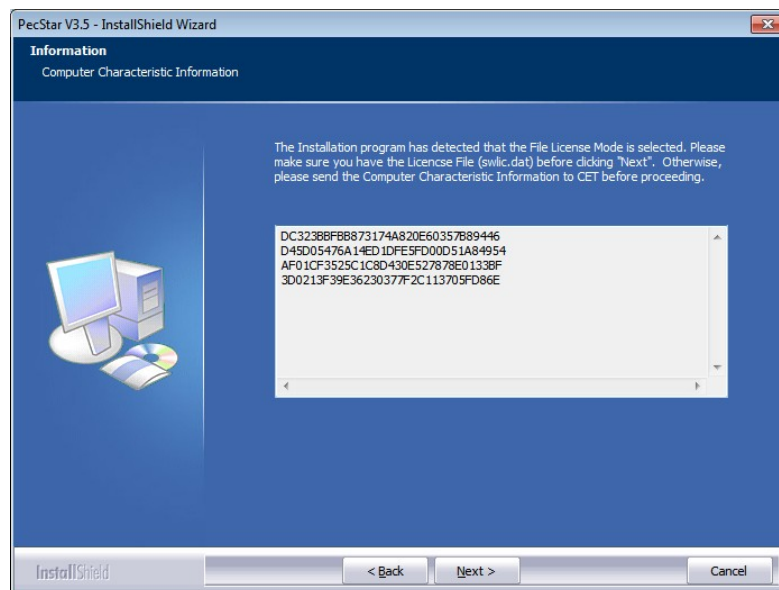


3. Select the authorization mode and click **Next**.

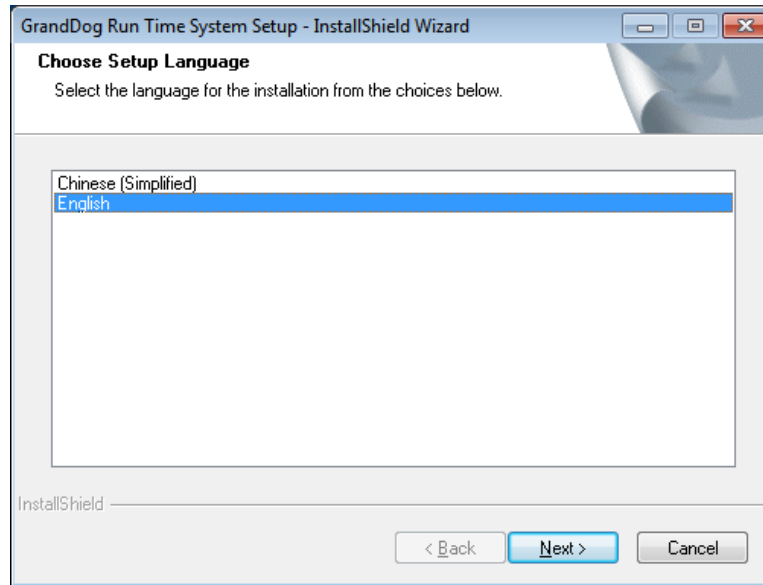


4. For **File License Mode**, PecStar will offer you the **Computer Characteristic Information** as follows. Send this to CET Electric Technology (srd@s@cet-electric.com) to get the corresponded Authorization File (swlic.dat) and Serial Number.

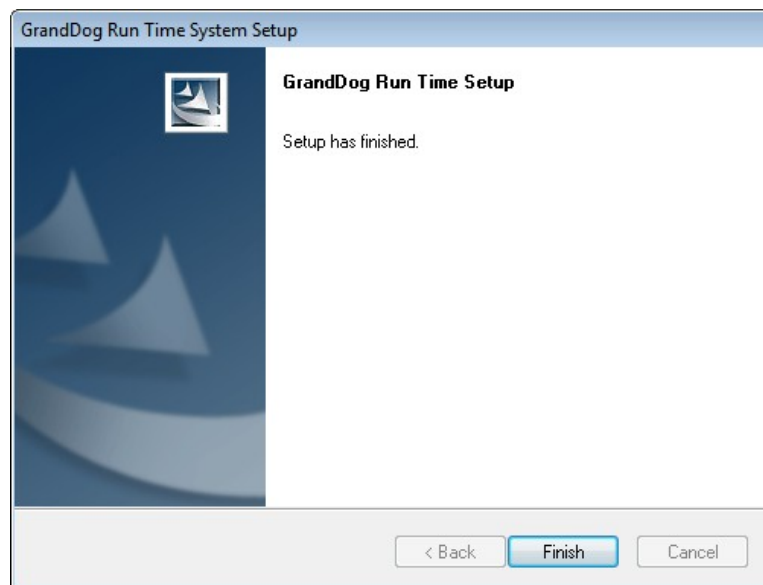
Click **Next** to proceed to the **Checking running environment** page.



5. For **Dongle Authorization Mode**, PecStar will install the Dongle driver. Select the **Setup Language** and click **Next**.

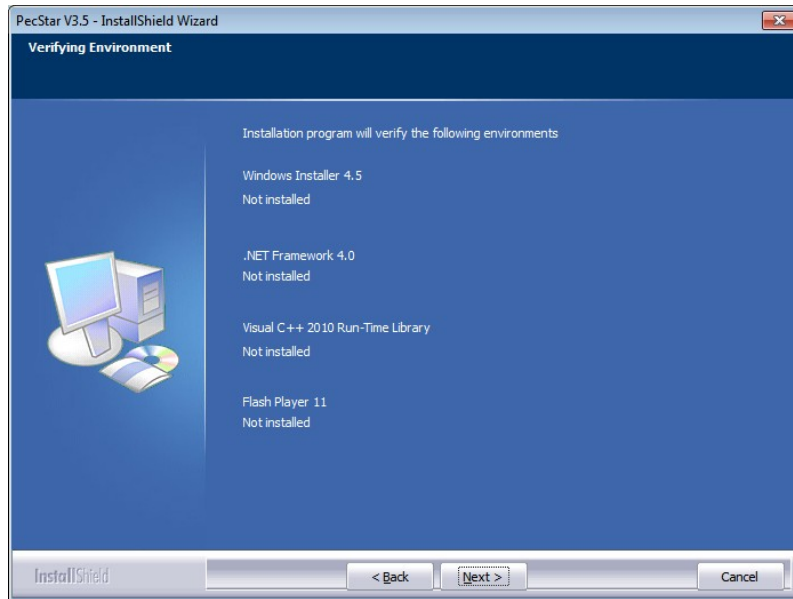


6. Wait until the installation finishes, click **Finish** to proceed to the **Verifying Environment** page.

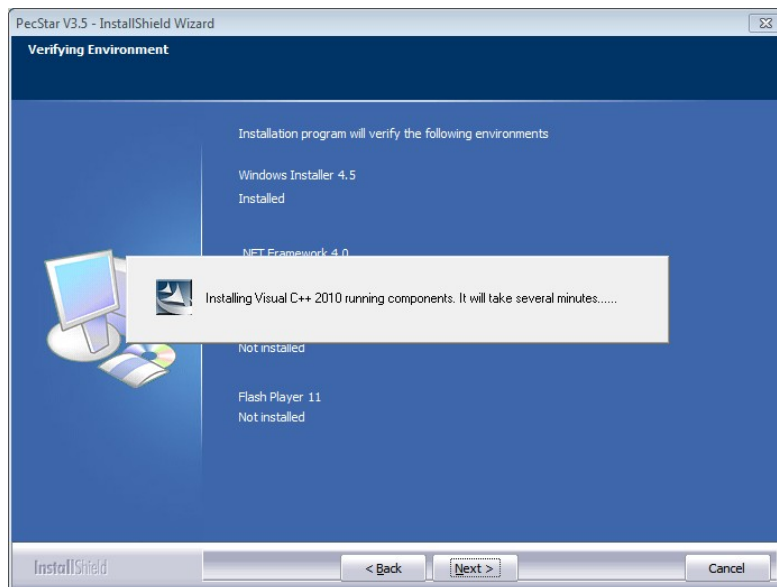


7. The Installation program will check and upgrade the following environments. Click **Next** to upgrade the environments.
- Windows Installer 4.5
 - .Net Framework 4.0
 - Visual C++ 2010 Run-Time Library
 - Flash Player 11

The program will automatically install the missing ones.

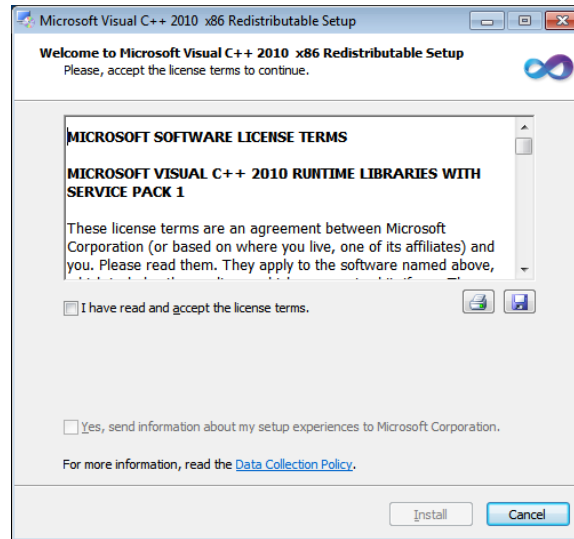


It may take about 20 minutes to install all the environments.

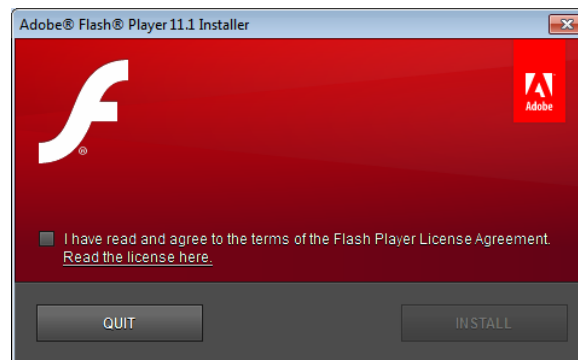


Ensure that you accept all these license agreements of the necessary environments.

- Microsoft Visual C++ 2010

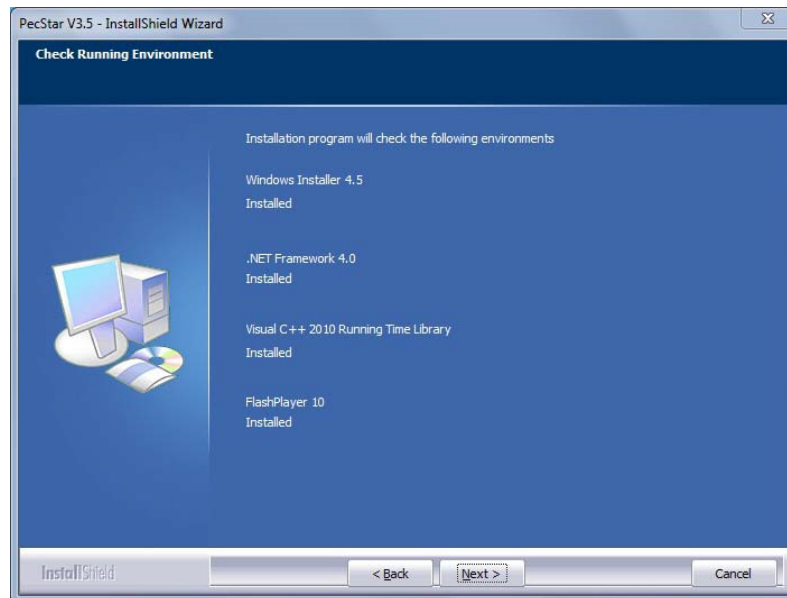


- Adobe Flash Player 11



- Microsoft .Net Framework 4

If all components are installed, then it appears as below. Click **Next** to proceed to the **License Agreement** page.



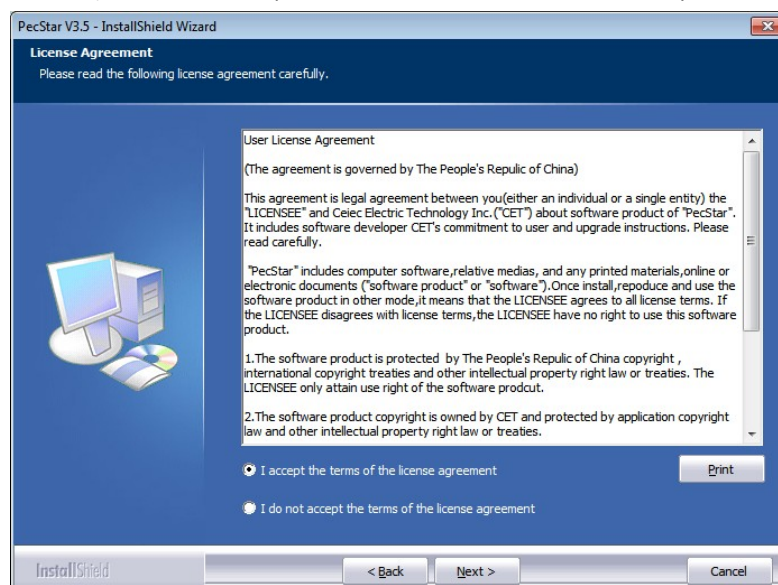
Note

PecStar iEMS will upgrade the environments by default. You may need to restart Windows for several times.

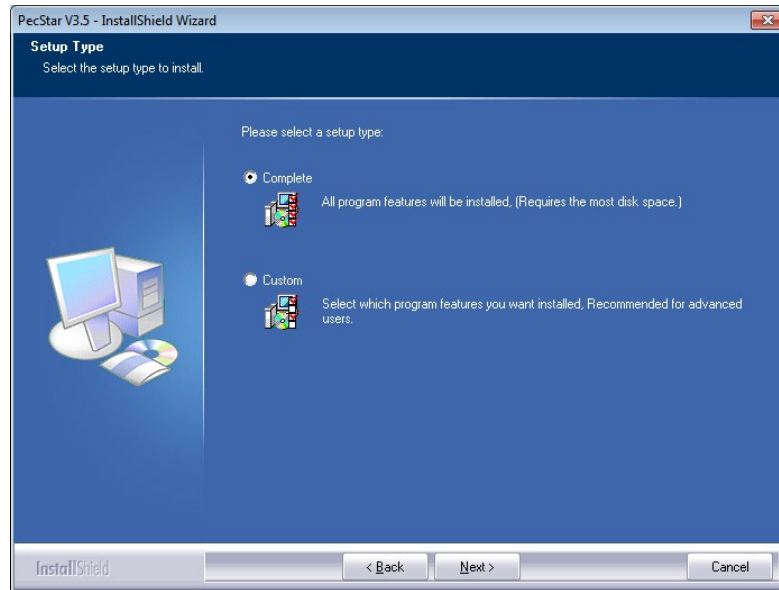
If the environments fail to install, you need to install the components from the PecStar iEMS Install Package.

8. Read the **License Agreement** page. Select **I accept the terms of the license agreement**, and click **Next** to proceed to the **Setup Type** page.

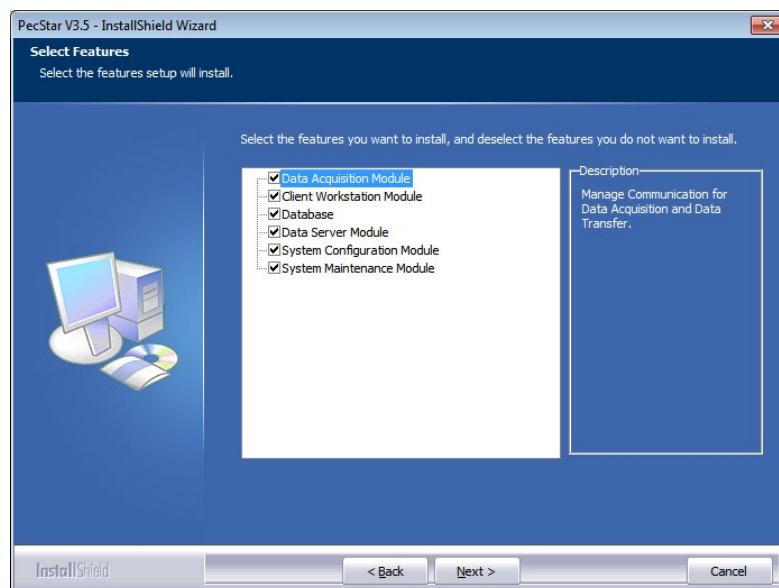
Note: Due to business development, since April 10th, 2017, Ceiec Electric Technology Inc. has been renamed to CET Electric Technology Inc., however, the products (including hardware and software) that were developed or manufactured before this date may still involve old name or logo.



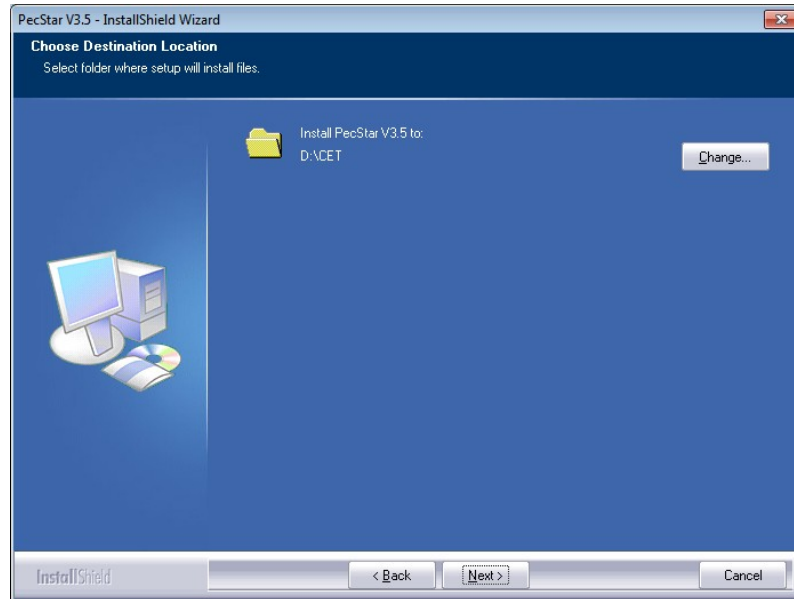
9. Select **Complete** or **Custom**, then click **Next**.



- **Complete**
Suitable for computers which host all modules of PecStar including Database Server, SCADA Server, Client Workstation, Data Server, etc.
 - **Custom**
Suitable for computers which host specific modules of PecStar iEMS such as: Data Acquisition Module, Client Workstation Module, Database, Data Server Module, System Configuration Module and System Maintenance Module.
10. For Custom Setup Type, Select one or several modules and click **Next**. Each of the modules listed can be installed independently on a computer. For Complete Setup Type, skip this step.

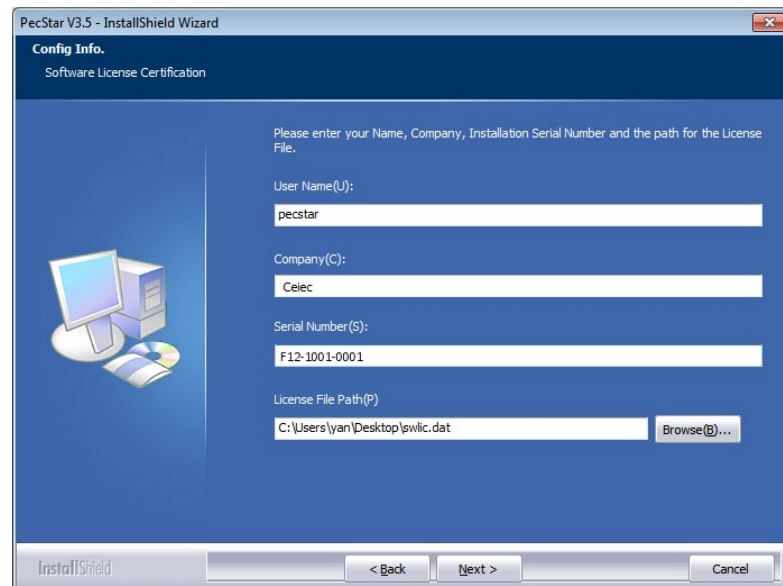


11. Choose the installation location of PecStar or accept the default location (D:\CET). Click **Next**.

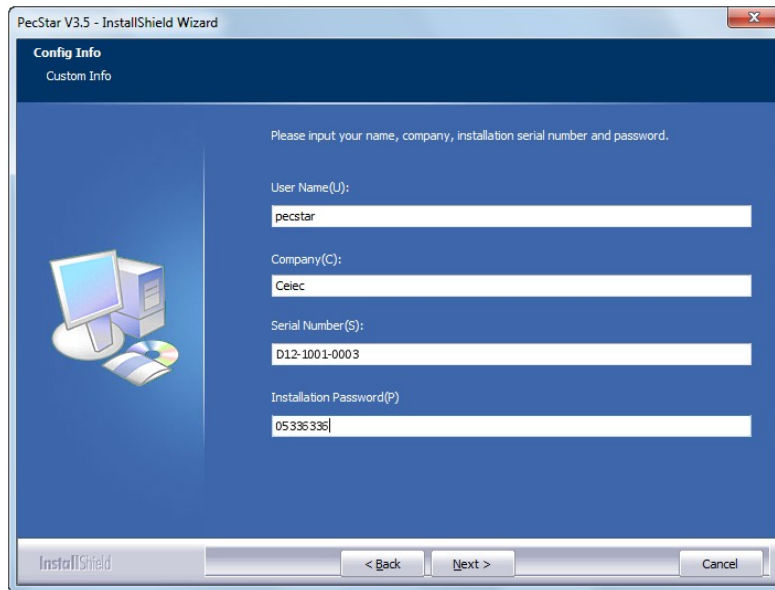


12. Enter the **Config Info.** and click **Next** to proceed to **Software Verified Info.** page.

For File Authorization, input the **Serial Number** and **Authorization File Path** (swlic.dat) received from CET Electric Technology (srds@cet-electric.com). Please see the picture below as an example, assume Serial Number is F12-1001-0001 and License File found on desktop.



For Authorization, input the **Serial Number** and **Password** of the dongle. Please see the picture below as an example.



PecStar V3.5 - InstallShield Wizard

Config Info
Custom Info

Please input your name, company, installation serial number and password.

User Name(U):
pecstar

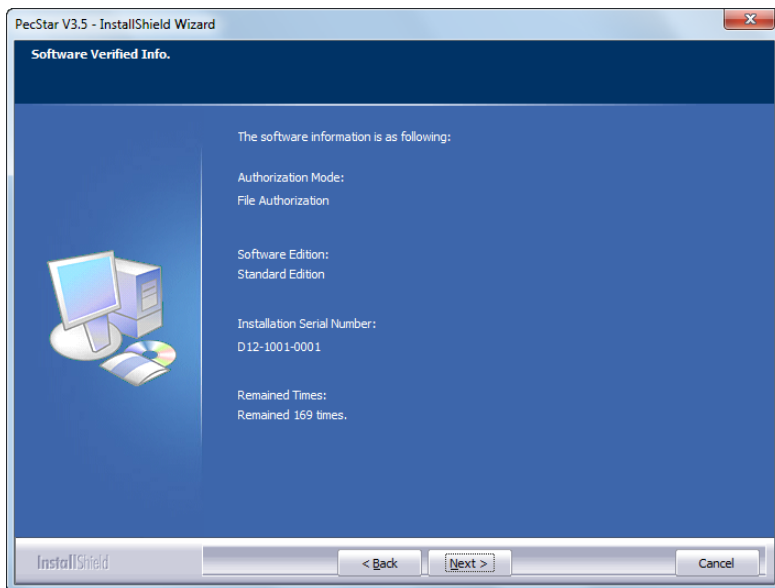
Company(C):
Celec

Serial Number(S):
D12-1001-0003

Installation Password(P):
05336335

InstallShield < Back Next > Cancel

13. Verify the information page. For License Mode, the window appears as follows. Click **Next** to proceed to the **Config Main/Stand-by Data Server Info.** page.



PecStar V3.5 - InstallShield Wizard

Software Verified Info.

The software information is as following:

Authorization Mode:
File Authorization

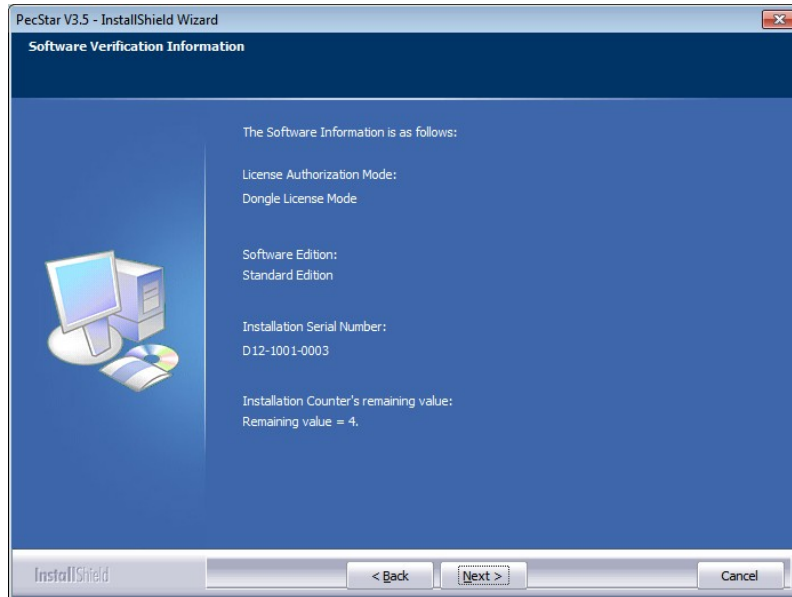
Software Edition:
Standard Edition

Installation Serial Number:
D12-1001-0001

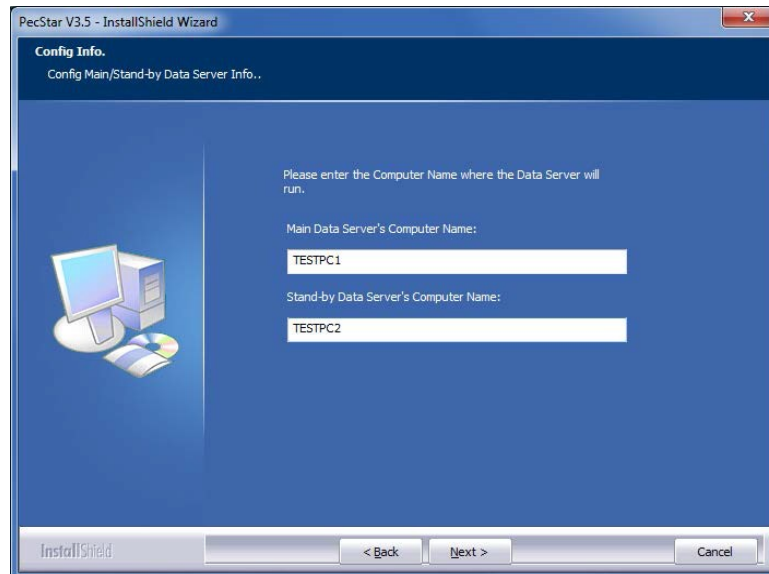
Remained Times:
Remained 169 times.

InstallShield < Back Next > Cancel

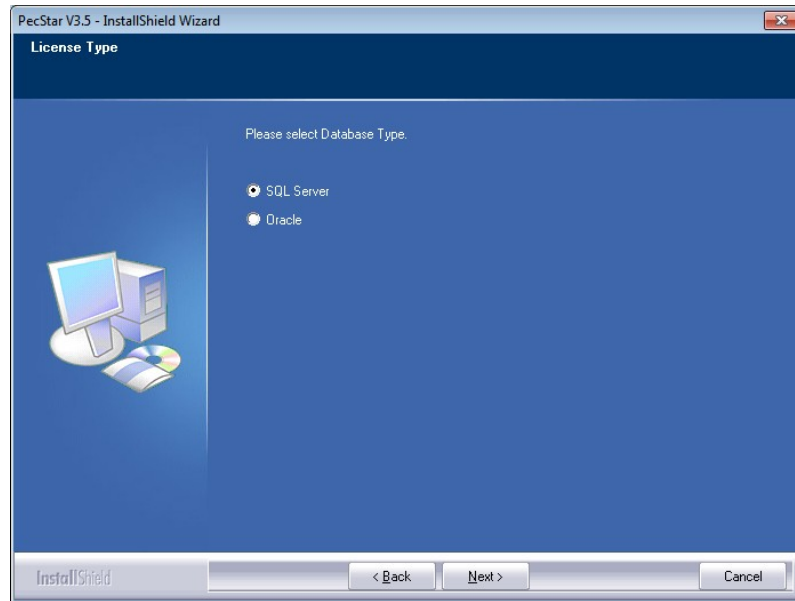
For Dongle Mode, the window appears as follow. Click **Next** to proceed to the **Config Main/Stand-by Data Server Info.** page.



14. Input the **Main and Standby Data Server's Computer Name.** A Redundant and Hot Standby PecStar System is required to input both computer names.



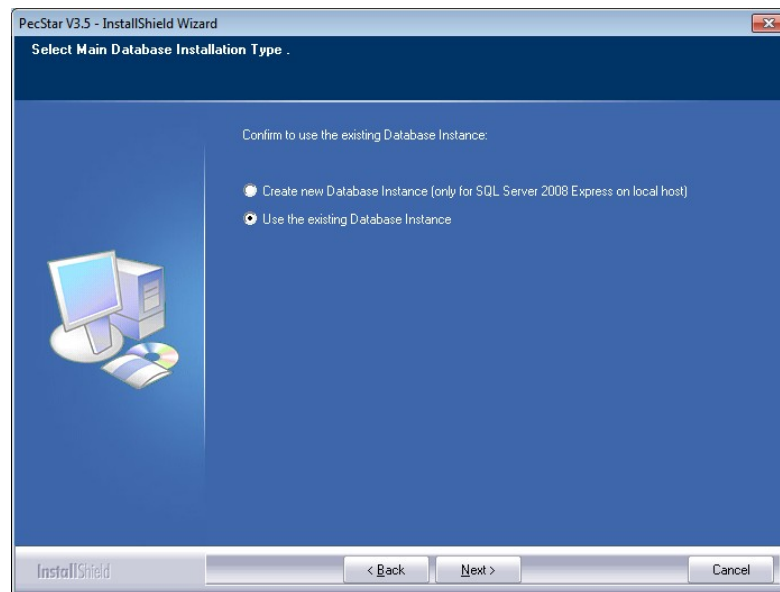
15. Select the Database type, SQL Server or Oracle, and then click **Next**.



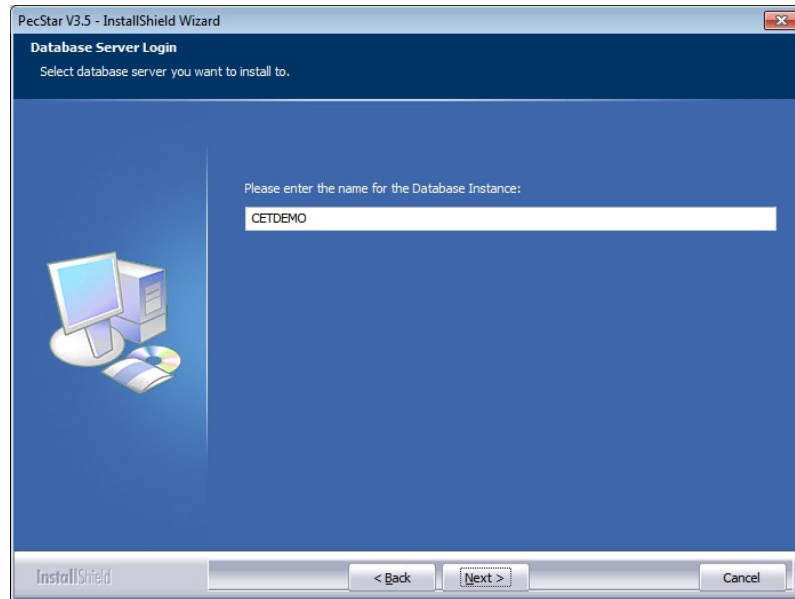
16. Select database Installation type, click **Next** to the **Database Server Login** page.

- **Create new database instance**
PecStar will install an SQL Server 2008 Express instance as the PecStar database.
- **Use the existing database instance (default)**

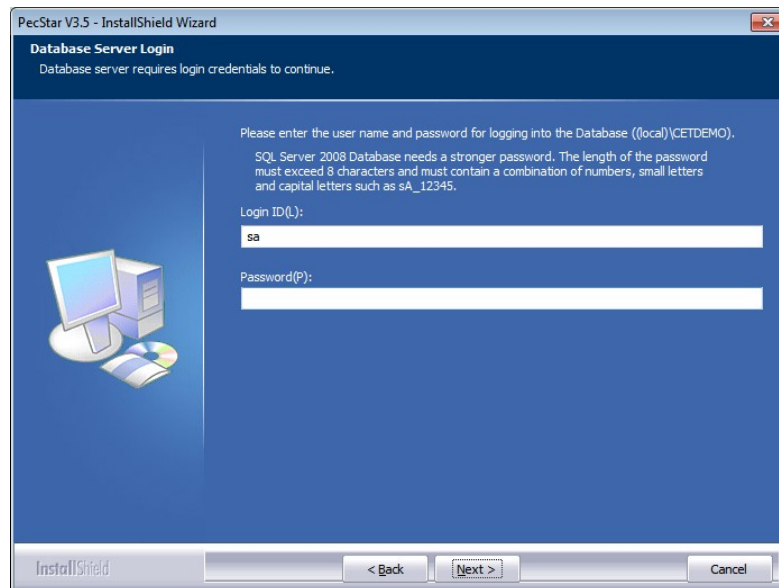
Select the existent instance to be PecStar database. It can be the database instance on a local or remote server.



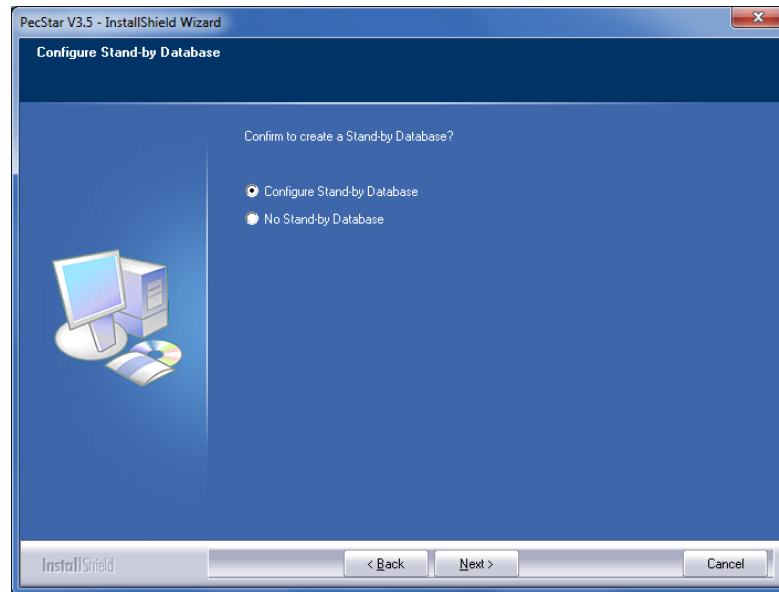
17. For **Create new database instance**, input an instance name and click **Next**.



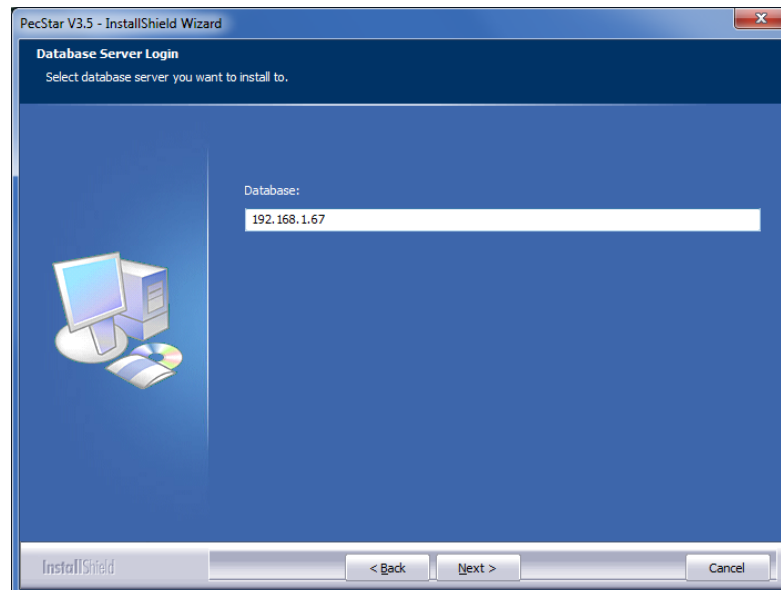
18. Define a strong password for the new created database then click **Next** to proceed to configure stand-by database.



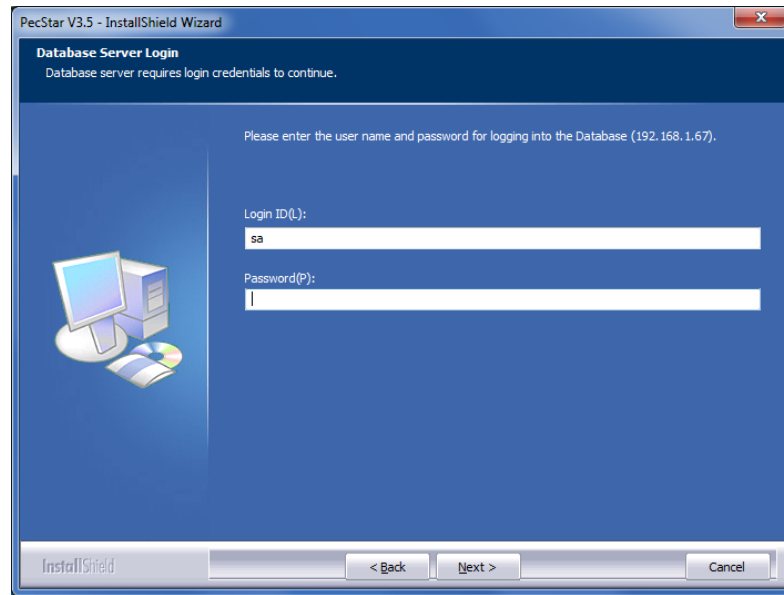
19. Select **Configure Stand-by Database** and click **Next**.



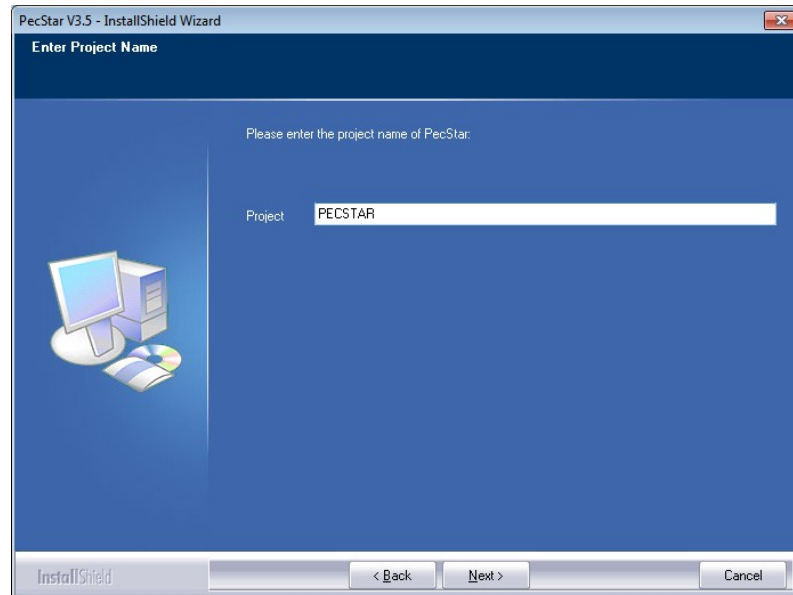
20. Select database server you want to install as stand-by database, type in the input the instance name or IP address and click **Next**.



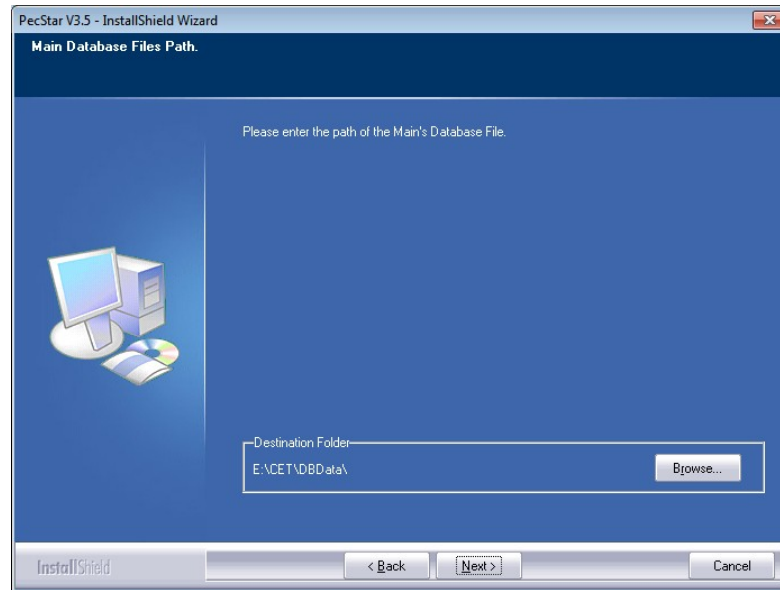
21. Input the user name and password for logging into the database then click **Next**.



22. Define a project name for the database and click **Next**.
Installation will check if the project name exists. It is recommended that you input a new project name for the first time you install PecStar. If the project name exists, then change or use existent and repeat the steps below.

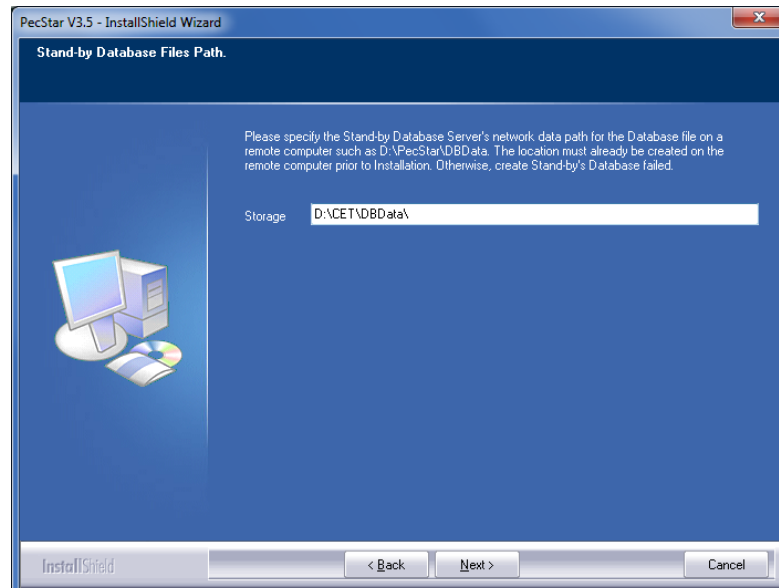


23. Select the main database file path (default: D:\CET\DBData), click **Next**.

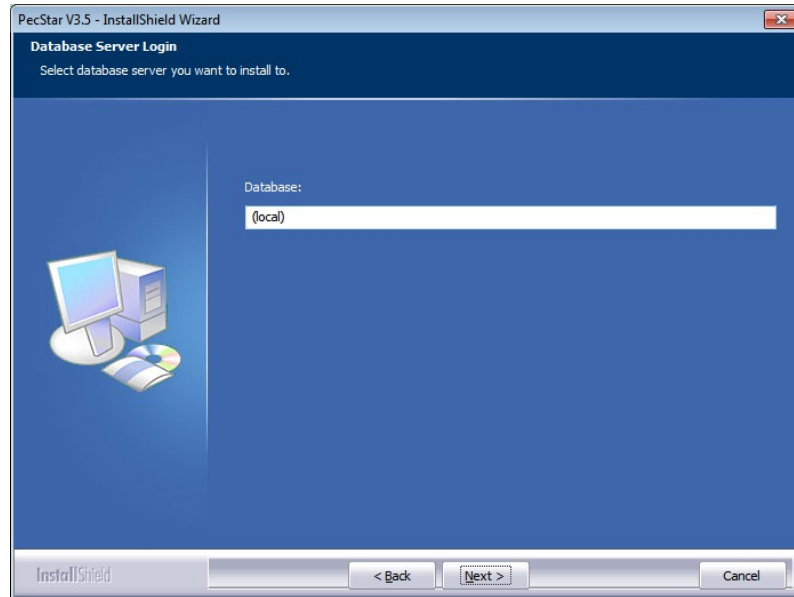


24. Select the Stand-by database file path (default: D:\CET\DBData), click **Next** to the **Ready to Install the Program** page.

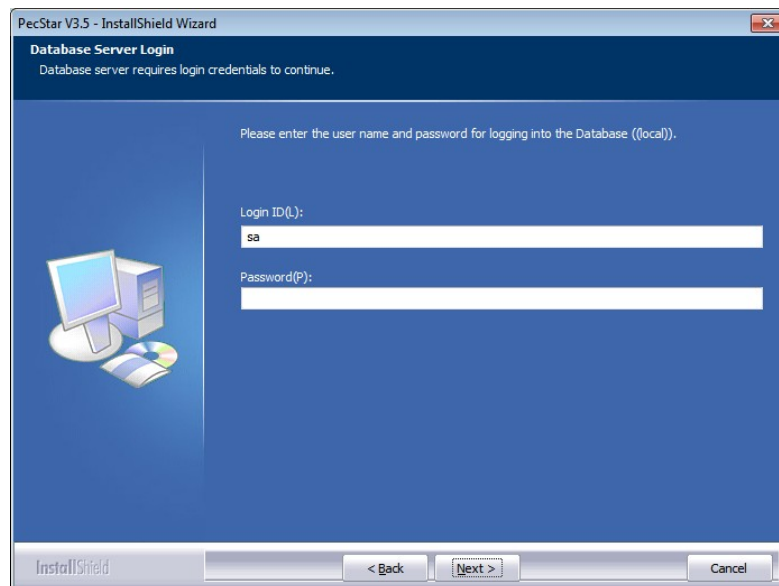
The location must be created on the remote computer prior to Installation. Otherwise, create Stand-by's Database failed.



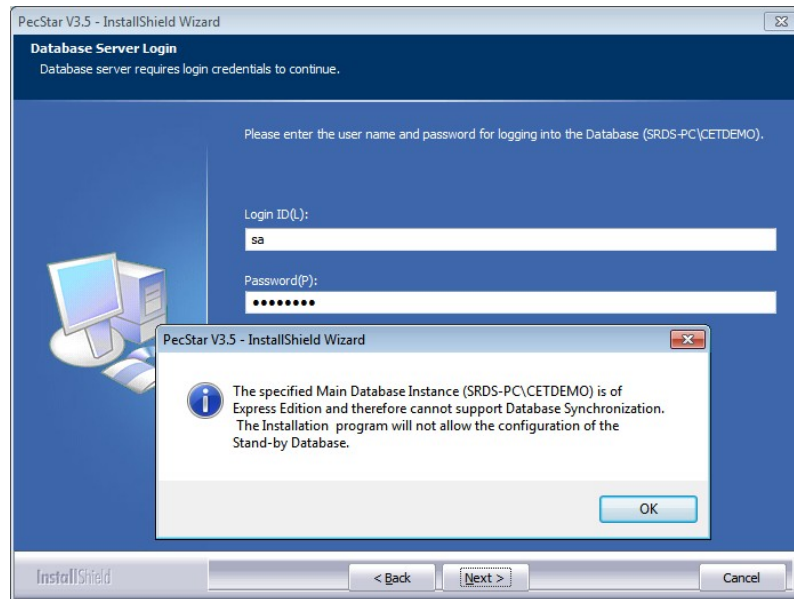
25. For **Using the existent database instance**, input or select the **Database Server** in the list, the default Database Server is (local). Then click **Next**.



26. Input the correct Login ID (sa) and the password. Click **Next**.



For the existing instance of SQL Server Express Edition, the **Database Synchronization** function is not available. Click **OK** to continue the installation.

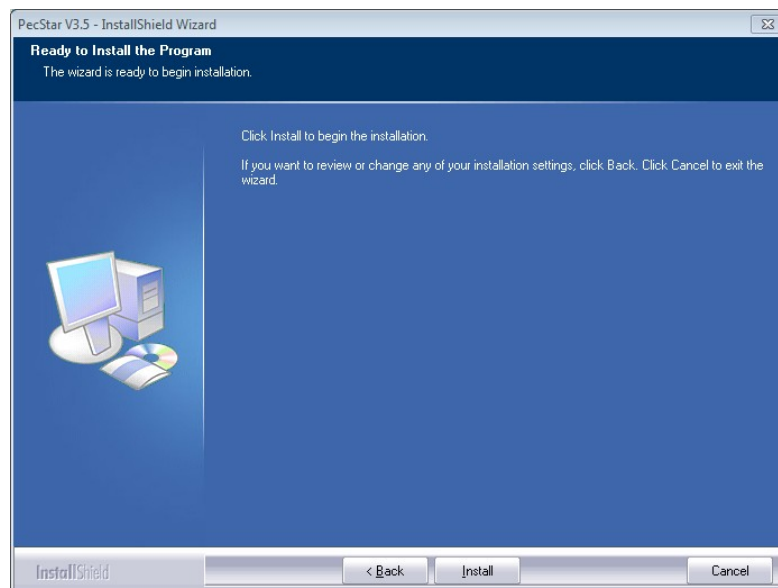


27. Follow the same steps as those for **Create new database** instance.

- **Enter Project Name** page
- **Main Database File Path** page
- **Stand-by Database File Path** page

Then click **Next** to proceed to the **Ready to Install the Program** page.

28. Click **Install** to start PecStar installation.

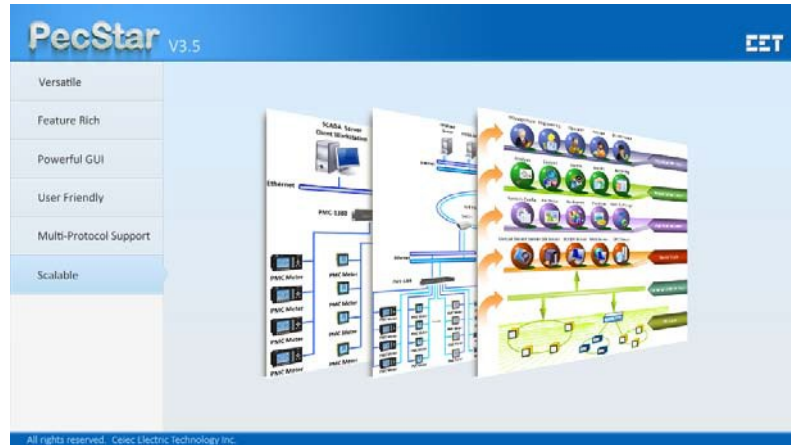


For **Create new database instance**, it may take about 60 minutes to finish all the install process, SQL Server 2008 Express installation included.

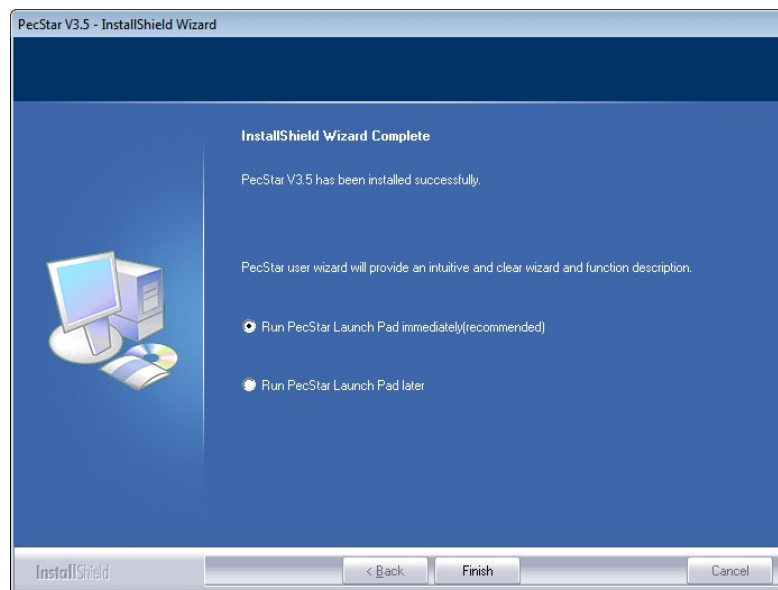


Installing SQL Server Express now. It may take about 60 minutes. Please wait.....

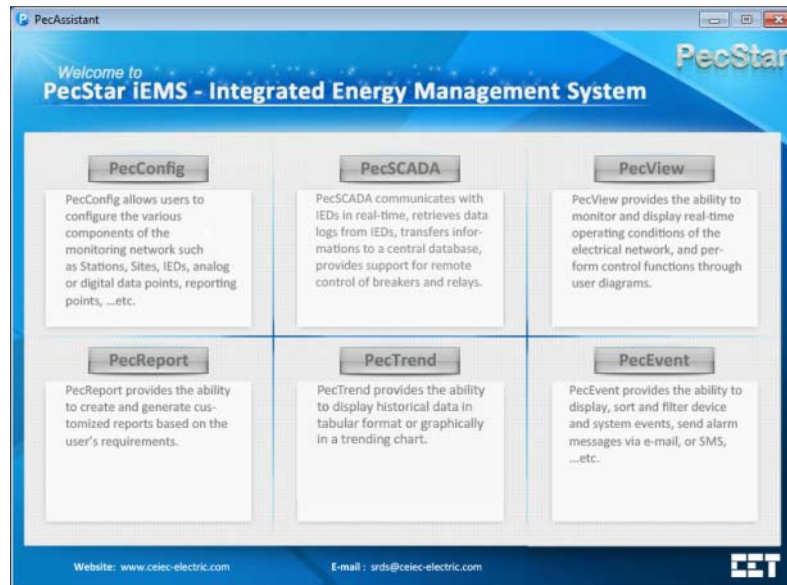
29. PecStar will display some features during installation.



30. Wait a moment until the installation finishes. Then you can choose to **Run PecStar Launch Pad immediately (recommended)** or to **Run PecStar Launch Pad later**, and click **Finish**.



31. The PecStar wizard will be created on the desktop of Windows and offers you six short cuts of the most common used programs as follows.



Note: Due to Due to business development, since April 10th, 2017, Ceiec Electric Technology Inc. has been renamed to CET Electric Technology Inc., however, the products (including hardware and software) that were developed or manufactured before this date may still involve old name or logo.

Next step

Now you can get started to use Standard Edition of PecStar, see the ***PecStar iEMS V3.5 User Guide*** for details. The following tips may offer you information of additional software and recommendation to keep the server healthier and safer.

Additional PecStar Software

Besides the PecStar Standard Installer, some extended installation of PecStar components are as follows.

Install a Demo Edition

PecStar offers an independent package for Demo Edition Installation, which includes the same modules as Standard Edition and provides you with graphic performance and historical data for demonstration. It is suitable for amateurs and beginners to learn and display performance of PecStar iEMS V3.5.

The Demo installation doesn't need authorization, and will create a SQL Server 2008 Express automatically.

For installation and performance of Demo Edition, please see the ***PecStar iEMS V3.5 Demo Edition*** for details.

Using a Web Client

A Web Client can be used by operators and others to access the Web Applications of PecStar Web Server, and enables you to view Communication status, Diagrams, Reports and Events.

The computer requires Microsoft Internet Explorer version 7.0, 8.0, or 9.0, and network connectivity to a PecStar Web Server. Web Clients can use Windows 7, Windows Server 2003, or Windows Server 2008 operating systems for this purpose.

To access Web Applications from a Web Client, enter an address in the following format in your browser:

`http://host_name/virtual directory`

where *host_name* is the computer name or IP address of the PecStar Web Server. For example, for computer name **MyComputer** and virtual directory **PecStarWeb**, enter the address in the browser as `http://MyComputer/PecStarWeb`.

For the local PecStar Web Server, you can enter `http://localhost/PecStarWeb` as well.

You need to download and install the Web Client Applications for graph viewing. Please see the ***PecStar iEMS V3.5 Web Access*** for details.

Post-installation Tasks

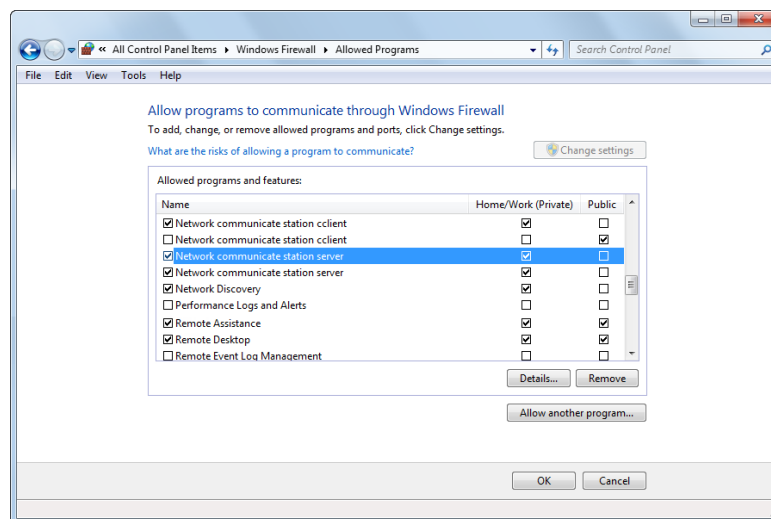
Perform the following procedures after you install PecStar.

PecStar Software Security

It is recommended that you add the PecStar directory into the Trusted Lists of anti-virus software.

Local firewall may report false when some of the PecStar core process is communicating with devices. We suggest you add these processes in List, take the Windows Firewall for example:

1. Enter the **Windows Firewall** in **Control Panel**, click **Allow a program or feature through Windows**.
2. Click **Change settings** to ensure that you can click **Allow another program** button.



3. Add these programs from PecStar directory, click **OK**.

- Sserver.exe
- DServer.exe
- Cclient.exe
- Front.exe

Please contact the local engineers for details of the advanced security settings.

PecStar iEMS® V3.5
Installation Guide

Contact Us

CT Electric Technology Headquarters
Floor 33-35, Building #6
Shenzhen International Innovation Valley,
Dashi First Road, Nanshan District, Shenzhen,
Guangdong, P.R.China 518055

Tel: +86.755.8341.5187
Fax: +86.755.8341.0291
Email: sales@cet-global.com
Web: www.cet-global.com

Contact CET Technical Support or your local representative should you require further assistance

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