

KABA MAS

Cencon[®] 5 Getting Started Guide

Kaba Mas Welcome

Kaba Mas, part of the world-wide Kaba group, is the world's leading manufacturer and supplier of high security, electronic safe locks. Its complete line of self powered, battery, and mechanical locks meets virtually every safe lock requirement. Kaba Mas is dedicated to satisfying end-user needs for security, safety, and convenience. We welcome you to the world of Kaba Mas security and Cencon[®].

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Manual Conventions

This Cencon Getting Started Guide contains information on the installation and set up of the hardware and software required to manage Cencon users and locks. Some conventions that are followed are:

- The Smart Keys needed for a particular operation will be shown beside the flowcharts that describe the operation.
- Input to the PC will be shown in **bold type**.
- The screen samples may not look exactly as they do on your system depending on which version of the Windows operating system you are using. Some samples in this document are from Windows XP and some are from Windows Vista.
- Highlighted items:

Note

Indicates a point to consider.

Important Note

Indicates information that is very important to know.

Helpful Hint

Indicates a technique or method that works well.

Caution

Indicates the need for care and caution to be observed during a procedure or process.

Warning

Indicates the possibility of loss of data or system integrity.

Before reading the Cencon Getting Started Guide, you should be familiar with basic Windows concepts and techniques. For detailed information, refer to your Windows documentation.

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- Cencon
- PowerStar Technology
- Smart Key

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Document Number 2098.0513 Rev. E 11/13 Cencon[®] 5 Getting Started Guide

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Cencon ATM Cash Vault Security System Product Overview

The Challenge

While the front of ATMs are accessed by customers with individual cards and PINs, the back of the ATM is often accessed by service personnel from multiple companies all using the same lock combination. Bank employees, cash replenishers, technical service reps, repair personnel all using the same combination to open an ATM safe poses a significant security risk.

The Solution

The Cencon ATM Cash Vault Security System from Kaba Mas is designed to combat insider theft from ATMs through the combined use of lock hardware, systems software and Smart Keys. The Cencon system offers total access control and accountability with its One Time Combination feature. The One Time Combination is dispatched from a central location and cannot be reused at a later date, thus eliminating temptation.

The Cencon ATM Cash Vault Security System allows locks located anywhere in the world to be controlled and monitored from one central location.

The central location consists of

- A database describing locks, lock administration personnel, lock service personnel, lock access details and history.
- Kaba Mas software that
 - Manages the creation and distribution of One Time Combinations(OTC).
 - Tracks the status of each lock and user.
 - Provides audit capability.
 - Can be used interactively by a human Dispatcher or programmatically by customer applications such as IVR or Web base interfaces.

The software provided by Kaba Mas consists of

- Cencon Interactive Application: Interactive Central Point of Control
 - Used to create, distribute, manage One Time Combinations (OTC).
- CenTran Service: Background Central Point of Control
 - Used by customer, 3rd party applications to create, distribute and manage OTCs.
- CenTran Web Services: Used by customer web applications to communicate with CenTran Service.
- CenTran Agent
 - Remote lock management: Allows CenTran Service to communicate with ATM lock, streamlining lock administration.
- Key Box Agent
 - Remote key management: Allows CenTran Service to communicate with remote key boxes, supporting decentralized lock personnel.

The Cencon ATM Cash Vault Security System supports three Modes of Operation:

FLM Mode

Designed for First Line Maintenance (FLM) personnel such as cash replenishers, technical service reps, repair personnel, the FLM mode of the Cencon lock permits the dispatch center to give a One Time Combination (OTC) for ATM lock access to a technician "on the fly." FLM personnel are each issued a Smart Key and call their dispatch center to request a One Time Combination. Once used, this combination will not function again, thus ensuring absolute access control. Once the Cencon unit is locked, a Close Seal code is displayed on the lock's LCD. Entering this Close Seal into the dispatch center's computer documents that the Cencon lock is locked and secure.

Route Mode

While permitting the same access control as FLM Mode, Route Mode additionally permits pre-defined routes for armored cash replenishers. Route personnel are each issued a Smart Key. A route of locks, along with an OTC for each lock on the route, may

be assigned by a dispatch center permitting route personnel to access a series of locks without contacting their dispatch center at each individual lock. Route personnel can either call their dispatch center at the end of the shift to report the Close Seals, or the Close Seals can be read from the Smart Key by the Cencon software.

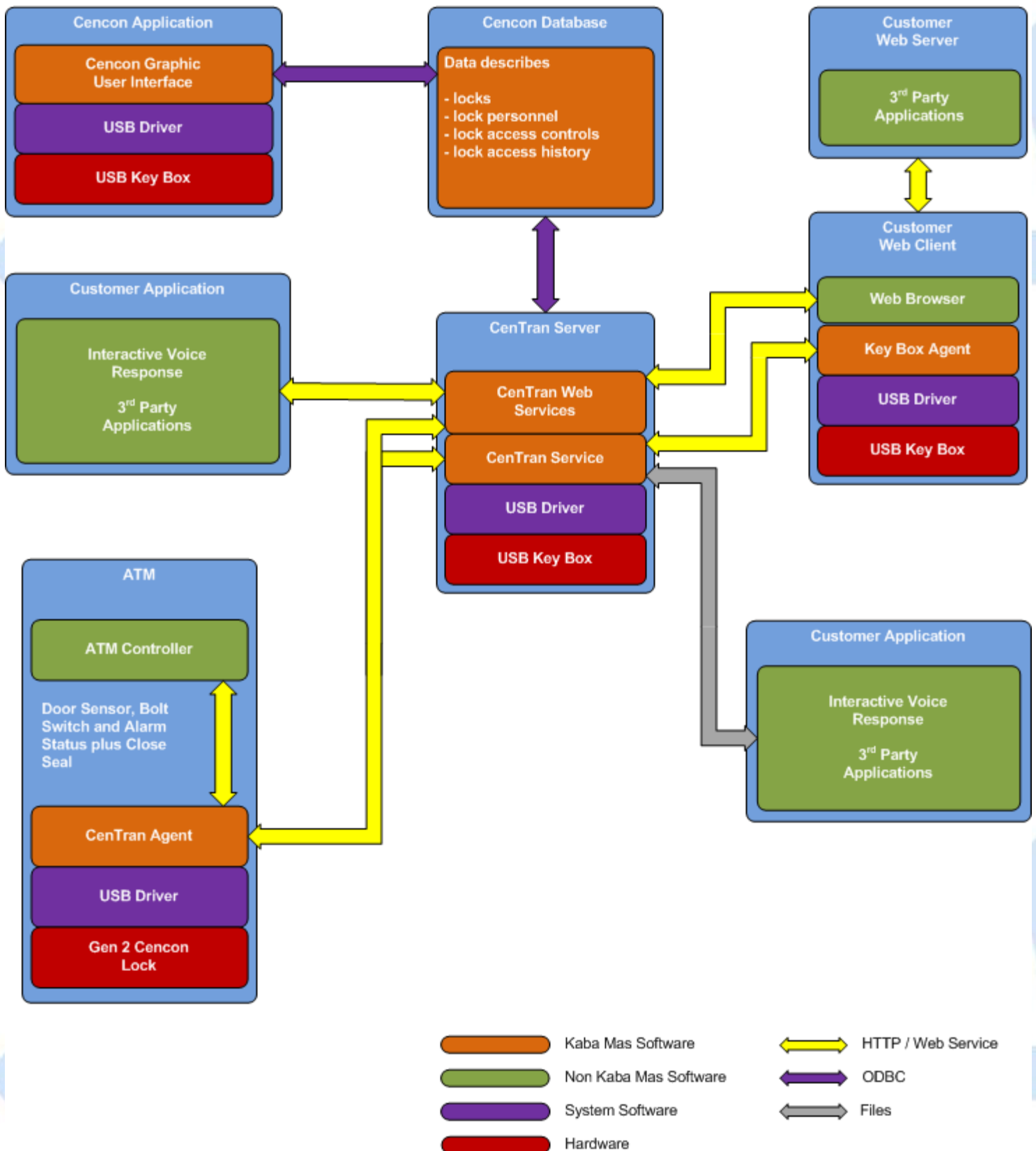
Bank Mode

Bank Mode is designed for bank personnel who may need access to the Cencon system lock but do not wish to operate through a dispatch center. Smart Keys and combinations are issued to bank personnel who may unlock the Cencon lock at any time. An internal audit trail tracks all activity of bank personnel just as it does for FLM and Route personnel. Kaba Mas Cencon software permits bank administrators to manage Bank Mode on site. Bank users may be added or deleted and audit trails may be downloaded from the lock.

High Level Overview of Cencon ATM Cash Vault Security System Component Architecture

The Cencon ATM Cash Vault Security System consists of several components whose method of use will vary depending on the business model of the supported enterprise. Presented here is a brief high level overview of the Cencon ATM Cash Vault Security System components.

Cencon ATM Cash Vault Security System Component Architecture



Cencon Database:

- Defines locks to be controlled, monitored and audited.
- Defines personnel allowed to access locks.
- Defines Personnel allowed to control access to locks.
- Contains access history for each lock.

Cencon Application:

- Interactive, graphical Windows application used to manage the Cencon Database contents.
- Requires a Cencon Key Box be attached to a USB port of the same computer.

CenTran Service:

- Available for use by customer applications to manage the Cencon Database contents.
- Applications communicate with the service via files or HTTP / Web Services.
- Runs in background as a Windows Service.

CenTran Web Services:

- Available for use by web applications to manage Cencon Database contents.

Customer Application Using CenTran Service Command File:

- The CenTran Service performs actions against the Cencon Database per commands imbedded in files.
- Results of those actions are reported in output files created by the CenTran Service.

Customer Application Using CenTran Web Services:

- The CenTran Service performs actions against the Cencon database per commands received via the CenTran Web Services.
- Results of those actions are reported to the customer application via the CenTran Web Services.

CenTran Agent:

- Allows CenTran Service to monitor lock in a real time manner.
- Runs on the ATM in the background as a Windows Service.

Key Box Agent:

- Allows CenTran Service access to Cencon Key Boxes on remote systems.
- Runs on remote Web Client systems in background as a Windows Service.

Customer Web Client:

- Customer developed web browser based user interface used to manage Cencon Database contents as well as Cencon Smart Keys via the CenTran Web Services.
- Can be located remotely.

Cencon ATM Cash Vault Security System Components and Business Processes

Examples of Business Processes Supported by Cencon ATM Cash Vault Security System Components:

1. FLM (First Line Maintenance) Operations with human Dispatcher:

1. FLM personnel reaches ATM and contacts Dispatcher requesting OTC.
 2. Dispatcher generates OTC via Cencon interactive application, gives OTC to FLM personnel.
 3. FLM personnel opens and closes lock, recording the Close Seal.
 4. FLM personnel gives Close Seal to Dispatcher who enters it into Cencon database via Cencon interactive application.
2. Route Operations with human Dispatcher:
1. Before starting route, Route personnel contacts Dispatcher and requests OTCs for each lock on route.
 2. Dispatcher generates OTCs via Cencon interactive application, gives OTCs to Route personnel.
 3. Route personnel opens and closes each lock on route, recording Close Seals.
 4. When the Route has been completed, the Close Seals are given to the Dispatcher who enters them into the Cencon database via Cencon interactive application.
3. FLM Operations with IVR (Interactive Voice Response) system:
1. FLM personnel reaches ATM, calls IVR system and requests OTC.
 2. IVR system generates OTC via CenTran Command File interface and reports OTC to FLM person.
 3. FLM personnel opens and closes lock, recording the Close Seal.
 4. FLM personnel calls IVR system and enters Close Seal.
 5. IVR system records Close Seal in Cencon database via CenTran Command File interface.

Though business processes will vary between companies there are core lock management tasks that will be used in every enterprise such as:

- Create User and Initialize Smart Key
- Delete User
- Dispatch Lock
- Open / Close physical lock
- Close Lock in Cencon database
- Reassign Lock
- Audit Lock
- Audit Key
- Audit Cencon Database

The following lists describe for a few of the core lock management tasks one possible flow of control through the Cencon ATM Cash Vault Security System components.

Create User and Initialize Smart Key:

- Dispatcher ->
- Customer Web Client ->
- CenTran Web Services ->
- CenTran Service ->
- CenTran Web Services ->
- Key Box Agent (writes KEY) ->
- CenTran Service ->
- CenTran Web Services ->

Customer Web Client

Note:

- Customer Web Client & Key Box Agent will probably be on same location but do not have to be
- Customer Web Client does NOT require a Keybox on the same system

Dispatch Lock(s):

- Dispatcher ->
- Customer Web Client ->
- CenTran Web Services ->
- CenTran Service ->
- Cencon Database ->
- CenTran Service ->
- CenTran Web Services ->
- Customer Web Client ->
- Dispatcher receives OTC
- Dispatcher transmits OTC to FLM/Route personnel

Lock is physically opened and closed:

- Service personnel calls Close Seal in to the Dispatcher who "Closes Lock" in the Cencon Database. The component flow is the same as that described for Dispatch Lock(s).
 - OR
- CenTran Agent Service on ATM uses CenTran Web Services to report Closure to CenTran Service and "Closes Lock" in the Cencon Database programmatically:
 - Lock is closed ->
 - CenTran Agent ->
 - CenTran Web Services ->
 - CenTran Service ->
 - Cencon Database ->
 - CenTran Service ->
 - CenTran Web Services ->
 - CenTran Agent

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The Cencon[®] 5 Software Package

The following items are required to implement the Cencon[®] 5 Software:

- **Cencon[®] 5 Server License Kit:** (Single Server Option - p/n 201190.)
 - Install source (DVD, USB drive, or download)
 - Cencon[®] 5 Software (32/64 Bit)
 - Cencon Driver Installer (32/64 Bit)
 - Cencon Database Setup Utility (32/64 Bit)
 - Getting Started Guide (HTML/PDF)
 - Software Reference Manual (HTML/PDF)
 - Cencon[®] 5 Software Maintenance and Support Agreement (HTML/PDF/DOCX)
 - Cencon[®] 5 Single Server License Certificate
 - Software Getting Started Guide
 - Quick Reference Cards (1 set)
 - Cencon Software Maintenance & Support (CSM&S) Agreement Form
 - 1 Change Key
 - 7 Cencon Smart Keys:
 - 2 red SA Keys
 - 3 black Logon Keys
 - 1 white Clock Set Key (for Gen2 locks)
 - 1 grey ReSync Key (for Gen2 locks)
- **Mode Authorization License(s)** (One or more)
 - Bank Mode (p/n 201191). Includes 2 green B keys.
 - FLM Mode (p/n 201192). Includes 2 blue F keys.
 - Route Mode (p/n 201193). Includes 2 yellow R keys.
- **Cencon[®] 5 Installation Key** (p/n 202202) - Orange key programmed for installation. Uniquely coded and tagged per company. Packaged and shipped separately for security reasons.
- **Cencon[®] 5 Dispatch Kit:** (p/n 201181)
 - Cencon USB Key Box - Uniquely coded per company.
 - USB cable

FCC Notice



CENCON KEY BOX
MODEL 202201

The Cencon Key Box is manufactured by Kaba Mas LLC, 749 W. Short Street, Lexington, KY, 40508, U.S.A., 859-253-4744, [HTTP://www.kaba-mas.com](http://www.kaba-mas.com). This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

An **Enterprise / Multi-Server License Kit** also is available - p/n 201194. This kit option includes all items in the Single Server Option and all 3 Mode Authorization Licenses shown above. A Cencon[®] 5 Enterprise / Multi-Server License Certificate is provided instead of the Single Server License Certificate. The Installation Key and Dispatch Kits are still required for implementation and are still ordered separately.

If you are missing any of the above items, contact Kaba Mas Technical Support at 1 (800) 950-4744.

Optional Order Items:

- Cencon[®] 5 Software Maintenance & Support Agreement
- Cencon On-Site Training for hands-on lock installation and complete lock and software operation.
- CenTran 5 (XML) Software (p/n 201182)

(See <http://www.kaba-mas.com/Kaba-Brand/Products/366024/cencon.html> for more information.)

System Requirements

Note

The minimum system requirements identified for Cencon must be met in addition to whatever is required for the PC operating system and the Database Management System. Please refer to the Kaba Mas web site to review the appropriate system requirements at: <http://www.kaba-mas.com/kaba-brand/products/cencon/366142/cencon-software.html>.

Cencon System Requirements

To use the Cencon program, the following minimum hardware and software requirements must be met:

- IBM compatible PC that is capable of running the Windows OS's listed below and has an available USB port for the Cencon Key Box.

Note

The Cencon Key Box requires a fully compliant USB 2.0 connection. Some computers, especially laptops and notebooks, may not provide sufficient power for the Cencon Key Box. In these cases it may be necessary to use a powered USB hub to attach the Cencon Key Box. On laptops or notebooks with "power saving" features that turn off USB power, the computer's Operating System (OS) could disconnect from the Cencon Key Box. In this instance, after awakening the computer and Cencon[®] 5 software, unplug and re-plug the USB cable between the computer and the Cencon Key Box.

- 4 GB RAM
- DVD Drive if your install source is a DVD disk. The install source can be a DVD, USB drive, or download.
- Hard Disk Drive with at least 50 megabytes disk space free
- **Please note that systems running more than 25,000 locks should run at higher than 4 GB RAM to ensure optimal system performance. (Refer to Appendix D of this guide for more information.)**

Important Note

If you are upgrading from a previous version of Cencon, you should also allow ample disk space for database growth.

- Windows 7 32/64 bit or Windows 8
 - You must be logged into Windows with Admin authority
- **An installed Database Management System (DBMS) - Microsoft SQL Server SQL 2008 R2 or 2012 (including the SQL Server Express, Standard, or Enterprise Editions) or Oracle 12c or higher.**
 - The DBMS installation does not have to be on the same computer as Cencon. You will need to have a valid ODBC connection to the DBMS for Cencon to use.
 - The above computer requirements do not include the requirements for the DBMS. If the DBMS is being run on the same computer as Cencon, then the total requirements will be the requirements of Cencon plus those of the DBMS.
 - The requirements of the DBMS installation will vary depending on the number of locks and users being used by Cencon and the number of Cencon installations connected to that DBMS.

Note

If you do not have an existing Microsoft SQL Server database, you can download a free copy of the latest Microsoft SQL Server Express Edition from the Microsoft web site at <http://www.microsoft.com/express/sql/default.aspx>. You should also download and install the SQL Server Management Studio.

Be sure to read the sections on system requirements and prerequisites. Contact Kaba Mas Technical Support for additional information.

Note

The Cencon database can be installed on a virtual server as long as minimum system requirements for memory and space allocation are met.



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Before Installing the Cencon Software

Important Note

It is required that you contact Kaba Mas Technical Support at 1(800) 950-4744 before installing or upgrading the Cencon software to review minimum system requirements and database setup (including upgrading the database from a previous version of Cencon), and to perform data validity checks on any current Cencon data.

Review Software Maintenance Agreement

A hard copy of the Cencon Software Maintenance & Support Agreement has been included in the software package. It is recommended that you review the Maintenance Agreement at this time. You also have the option to view and print the Maintenance Agreement when you install the software, and you can also review the Maintenance Agreement online at <http://www.kaba-mas.com/kaba-brand/products/cencon/366142/cencon-software.html>.

Company ID

WARNING

Identify Company ID

During the installation process, you will be required to enter a unique four-digit Company ID. If you are a branch of a larger company, this ID must be identical to that used for all other Cencon installations by your company. **YOU MUST determine what the four-digit number is before you begin the installation process.** Once chosen and input into the system, you should record and secure the Company ID since the number becomes encrypted and cannot be changed.

Important Note

Locks that have been initialized in a different company's system can only be activated in your company's system after having been "shelved" in their original system.

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Installation Scenarios and Required Processes

Important Note

It is recommend to contact Kaba Mas Technical Support to review system requirements and for database setup support.

There are 3 different installation scenarios under which the Cencon[®] 5 Software can be installed. There are unique installation processes for each of the 3 scenarios as follows:

1. New Install

- Review Software Maintenance Agreement
- Identify Company ID
- Install Cencon USB KeyBox
- Install Cencon USB KeyBox drivers
- If you do not already have a database management system (DBMS), download and install Microsoft SQL Server 2012 Express and SQL Server Management Studio Express or higher. A minimum of Microsoft SQL Server 2008 R2 is required. Versions of Microsoft SQL Server lower than 2008 R2 are not supported.
- Create a Database Client ODBC connection
- Run the Cencon[®] 5 CenconDBSetupUtility to set up the Database
- Install Cencon[®] 5
- Start Cencon[®] 5 Program and Identify Database Connection
- Create First Logon For New Cencon Database
- Logon to Cencon[®] 5
- Define and Add Regions (if applicable)
- Define and add Bank Branches (if applicable)
- Define and add Customers (if applicable)
- Add additional users
- Customize Authorizations
- Activate Locks

2. Cencon Upgrade to Cencon[®] 5 with Data Imported from Cencon 1.5.x or lower

- Review Software Maintenance Agreement
- Record Current Authorization Levels
- Install Cencon USB Key Box
- Install Cencon USB Key Box drivers
- If you do not already have a database management system (DBMS), download and install Microsoft SQL Server 2012 Express and SQL Server Management Studio Express or higher. A minimum of Microsoft SQL Server 2008 R2 is required. Versions of Microsoft SQL Server lower than 2008 R2 are not supported.
- Create a Database Client ODBC connection
- Run the Cencon[®] 5 CenconDBSetupUtility to create a Database and import the existing Cencon data
- Install Cencon[®] 5 Program
- Copy file Cencon.exe.Config from Installation Folder of previous version of Cencon into Cencon 5 Installation Folder.
- Start Cencon[®] 5 Program and Identify Database Connection
- Logon to Cencon[®] 5 Program

Update the "Help/Reference Manual Files Directory" in Preference Settings to the Cencon 5 Installation Folder.

- Define and Merge Regional Databases (if applicable)
- Define and add Bank Branches (if applicable)
- Define and add Customers (if applicable)
- Customize Authorization Levels

3. Cencon Upgrade from Version 2.x, 3.x, 4.x to 5.x

- Install Cencon USB Key Box
- Install Cencon USB Key Box drivers
- Upgrade database to at least Microsoft SQL Server 2008 R2 (or 2008 R2 Express) if at a previous version. A minimum of Microsoft SQL Server 2008 R2 is required. Versions of Microsoft SQL Server lower than 2008 R2 are not supported. It is recommended to upgrade to Microsoft SQL Server 2012 or higher.
- Install Cencon[®] 5 Program
- Copy file Cencon.exe.Config from Installation Folder of previous version of Cencon into Cencon 5 Installation Folder.
- Run the Cencon[®] 5 CenconDBSetupUtility to convert the existing database to the Cencon[®] 5 configuration
- Logon to Cencon[®] 5 Program
- Update the "Help/Reference Manual Files Directory" in Preference Settings to the Cencon 5 Installation Folder.
- Define and Merge Regional Databases (if applicable)
- Define and add Bank Branches (if applicable)
- Define and add Customers (if applicable)
- Customize Authorization Levels

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Software Installation and Setup

Complete the following steps to install the software:

1. Logon to the PC system as a user with Local Admin (or higher) rights in order to successfully install the software.
2. Verify that your Windows operating system is at the latest service level. (See your Window's Help and Support function if you need assistance with this.)

Caution

Be extremely cautious in bringing the Windows operating system to the latest service level. With the release of Windows 7, running a Windows Update on a Windows Vista system will update the operating system to Windows 7.

Important

Always run Windows Update to ensure that your system is up to date before installing the Cencon software. The Cencon software requires the .NET 4 framework to be installed on your system. This can be automatically installed by running Windows Update. If your system is not up to date or the .NET 4 framework is not properly installed, the Cencon software will not operate correctly.

3. Check the PC Date and Time Properties (date, time, time zone, DST adjustment setting) from the Control Panel to ensure accuracy. Adjust, if necessary, before proceeding.

Note

It is strongly recommended that you close all other applications before installing the Cencon software. It is also recommended that you review the Cencon Reference Manual before installing the software.

4. If you have a previous version of Cencon installed, you should ensure that data has been archived in accordance with the customer archive requirements and then backup the current Cencon database.
5. If your install source is a DVD, insert the Cencon[®] 5 Install DVD in the appropriate drive. Your install source can be a DVD, USB drive, or download. If you have autorun enabled on your system, the Cencon[®] 5 Installation screen will be displayed. Otherwise, double click **Autorun.exe** from the Cencon[®] 5 install source (DVD, USB drive, or download) root directory, and the Cencon[®] 5 Installation screen will be displayed.

The Cencon Version 5 Software Installation dialog is loaded and the Main Menu is displayed:



6. From the Main Menu, click on the **Install** button.

Depending on your operating system, either the 32 or 64-bit Cencon install screen is displayed:



7. Install the SQL 2008 R2 ODBC Driver

First, install the SQL ODBC Driver on your system if you have not already done so. This SQL ODBC Driver is the SQL Server Native Client 10.0 driver as released with Microsoft SQL Server R2. Using the default SQL ODBC Driver available with Windows will result in slow performance. It is recommended to use the most recent SQL ODBC Driver released by Microsoft. If you have a more recent SQL installation from Microsoft than SQL Server R2, then you should use that SQL ODBC Driver. To install the provided SQL ODBC Driver released with Microsoft SQL Server R2, select the **SQL ODBC Driver** button.

8. Install the Cencon® 5 Program

Note

Cencon® 5 only supports the Cencon Key Box.

Operating System Root Certificate Authority Certificates

If your operating system is very old, such as Server 2003, or is not up to date with the Microsoft operating system updates, you may have to install updated operating system Root Certificate Authority Certificates for the Cencon USB Keybox driver installation to run correctly. An install of these certificates is provided in the **TrustedRootCAUpdates** directory on the Cencon install source (DVD, USB drive, or download).

Windows Installer Service (MSIEXEC) version for Windows XP

If your operating system is very old, such as Server XP, or is not up to date with the Microsoft operating system updates, you may have to install an updated version of the Windows Installer Service. The Cencon installation requires at least version 4.5 of the Windows Installer Service.

To determine the version of the Windows Installer Service, run the following from the command line: `msiexec /?`

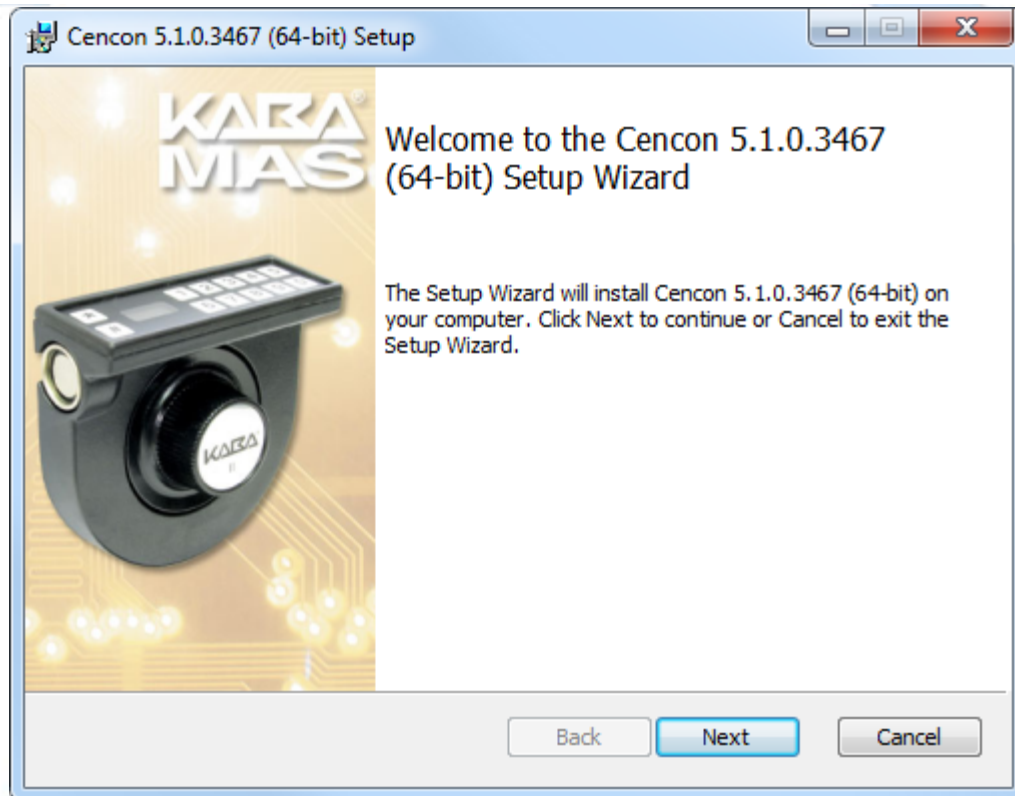
You can find various installs to update the Windows Installer Service in the following directory of the install image:

Complete the following steps to install the software:

- a. From the Install Software Menu click the **Cencon** button.



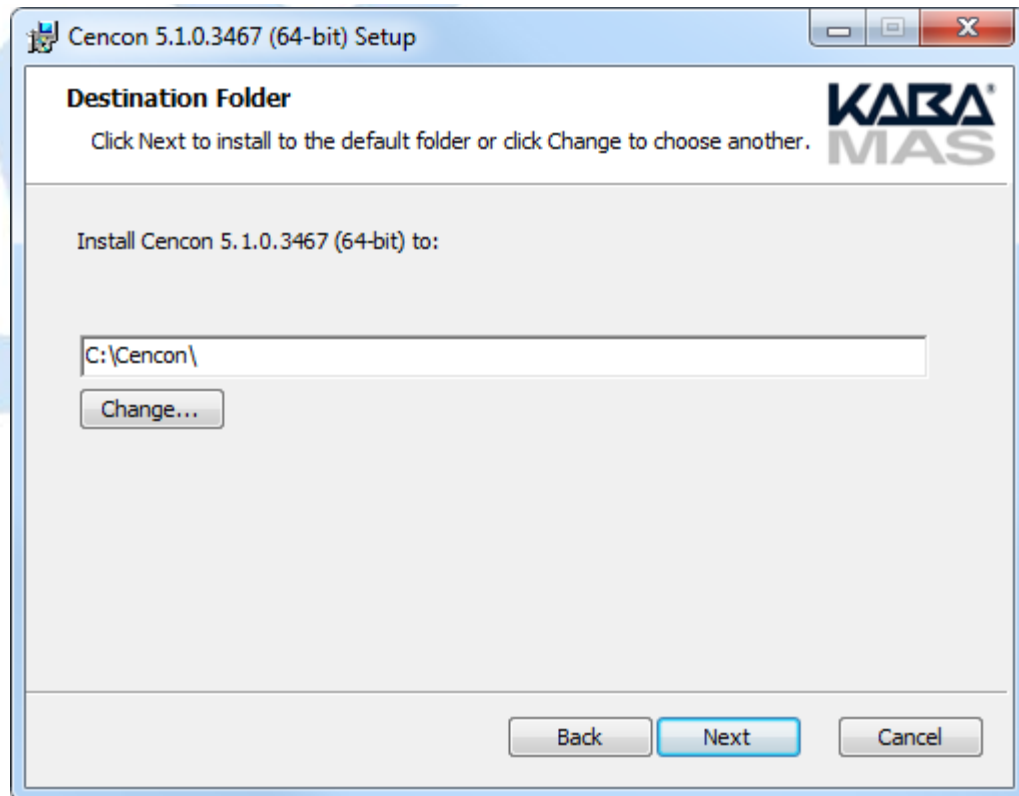
The Cencon® 5 Setup Wizard screen is displayed. The Setup Wizard is a Windows program that will take you through the rest of the setup process. Once completed, you will be returned to the Cencon Version 5 Install Program screen.



- b. Click on **Next >** to continue with the installation.
The Software License Agreement acceptance screen is displayed.



- c. Read the Software License Agreement, select "I accept the terms in the License Agreement", and then click on the **Next >** button to continue.
The Select Installation Folder window is displayed to allow you to select the program folder to which the Cencon® 5 programs will be added.

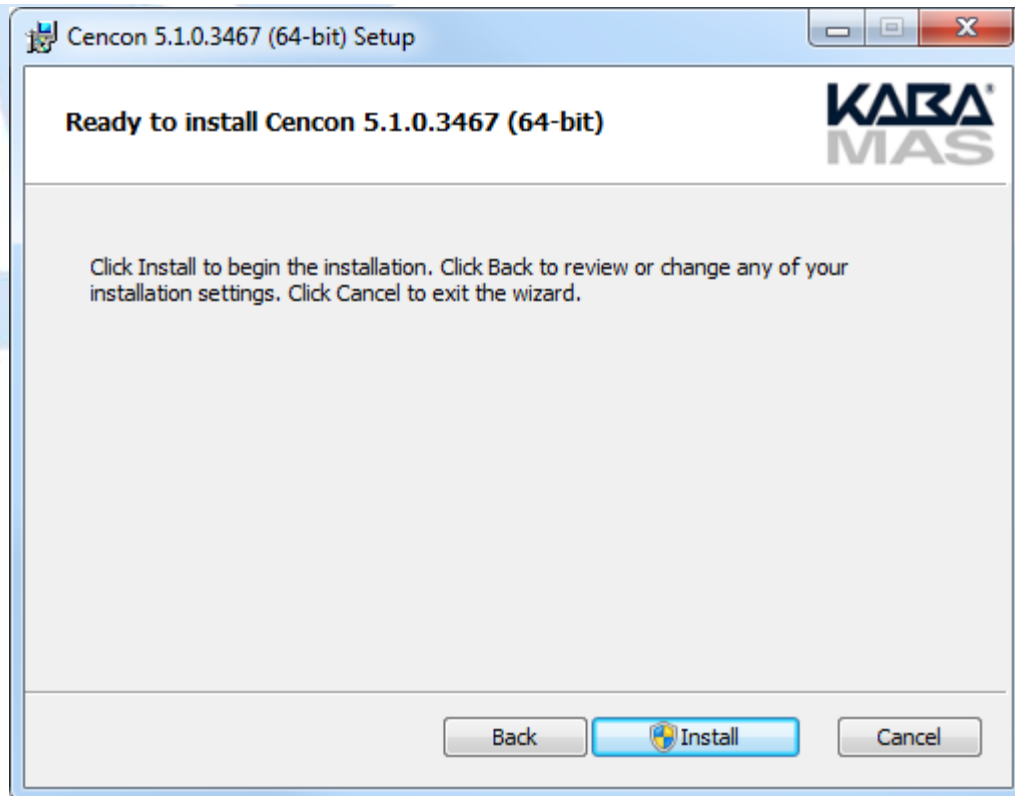


Installation Directory

The default installation directory is shown. It is recommended that you install the software to the default folder (i.e., Cenccon.) If you want the Cenccon[®] 5 software installed in another directory, click on the Browse button and select the new path.

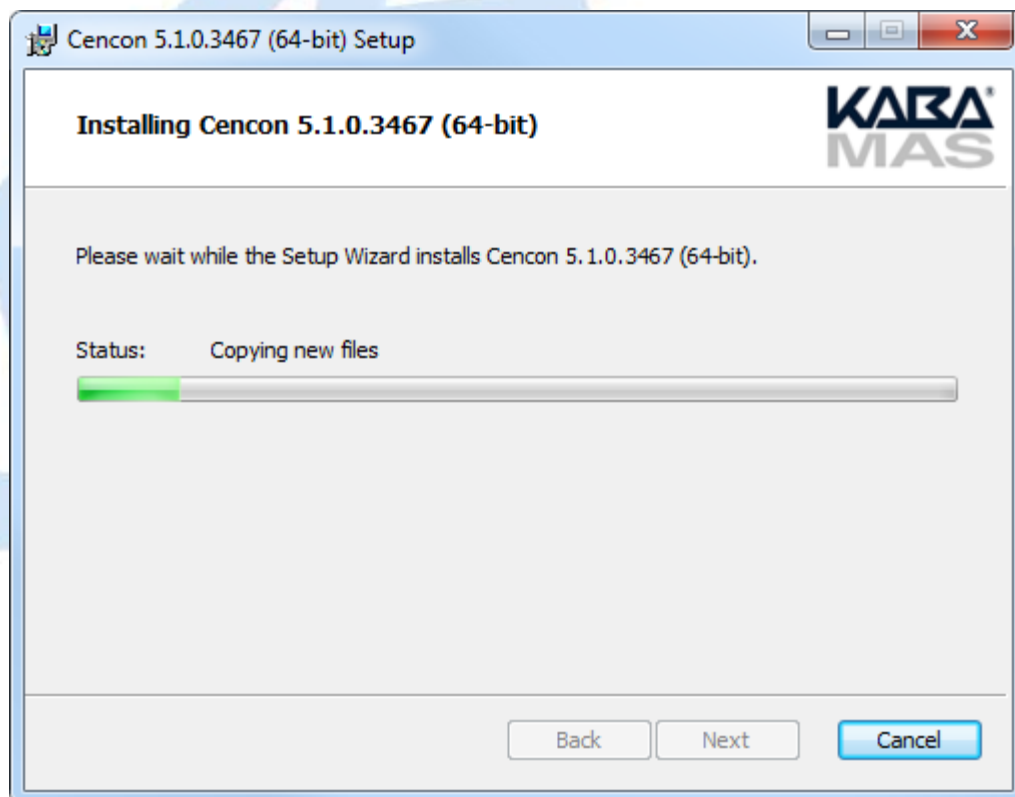
It is strongly recommended that you **not** change the installation directory to c:\Program Files on Windows Vista and above.

- d. Click on the **Next >** button to add the programs to the designated folder.
The Confirm Installation screen is displayed:



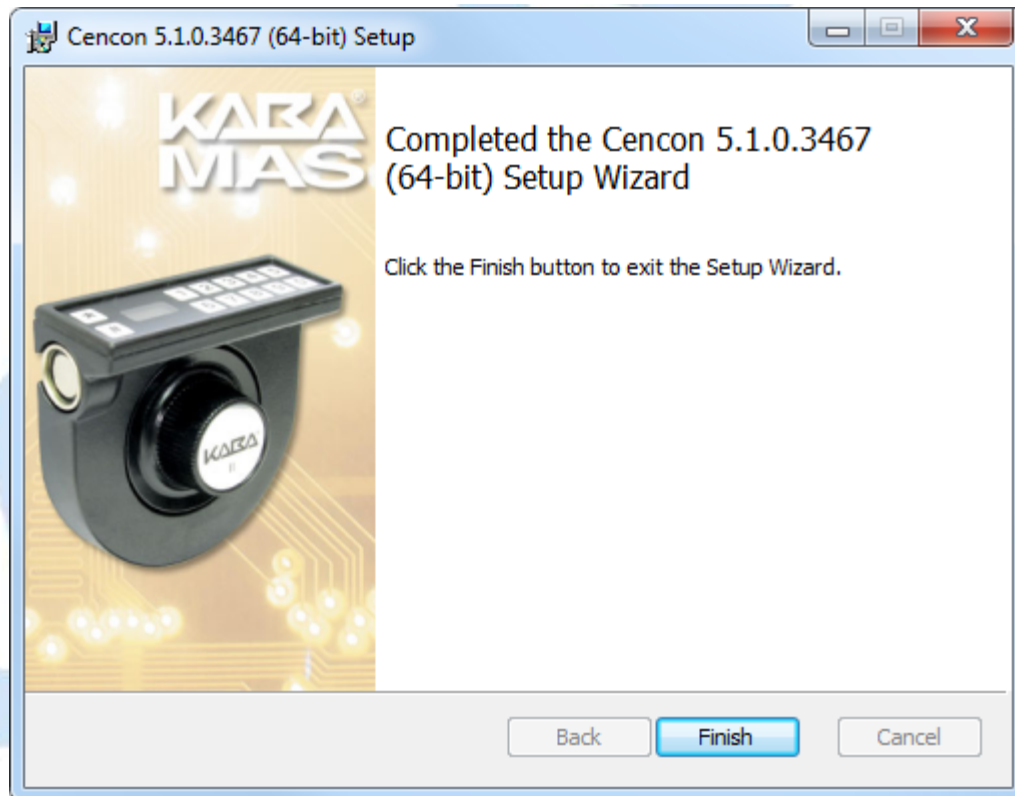
- e. If there is anything you wish to change, click on the < **B**ack button. Otherwise, click on **I**nstall > to install the program with the designated settings.

The Installing Cenccon[®] 5 screen displays an indication of the installation progress.



- f. Click on the **N**ext > button to continue.

The Installation Complete screen is then displayed indicating that the Cenccon[®] 5 program has been successfully installed:



g. Click on the **Finish** button to return to the Software Install screen.

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ODBC Connection Creation for SQL Server

ODBC (Open Database Connectivity) is a standard C interface for accessing database management systems (DBMS). The designers of ODBC aimed to make it independent of database systems and operating systems. An application can use ODBC to query data from a DBMS, regardless of the operating system or DBMS it uses.

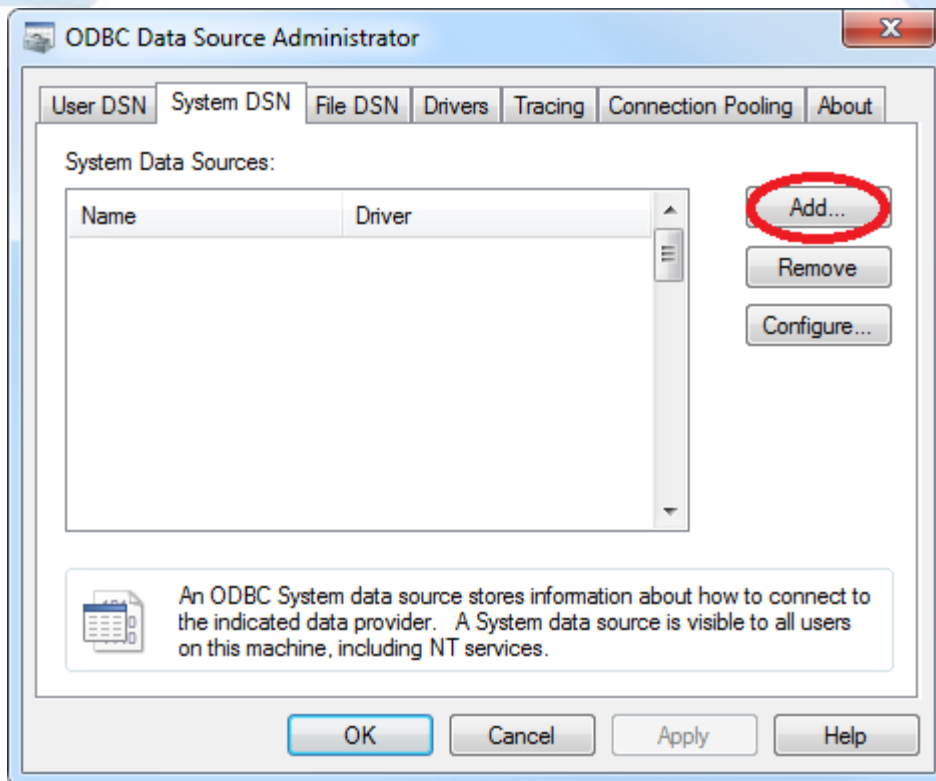
ODBC accomplishes DBMS independence by using an *ODBC driver* as a translation layer between the application and the DBMS. The application uses ODBC functions through an *ODBC driver manager* with which it is linked, and the driver passes the query to the DBMS.

Important Note

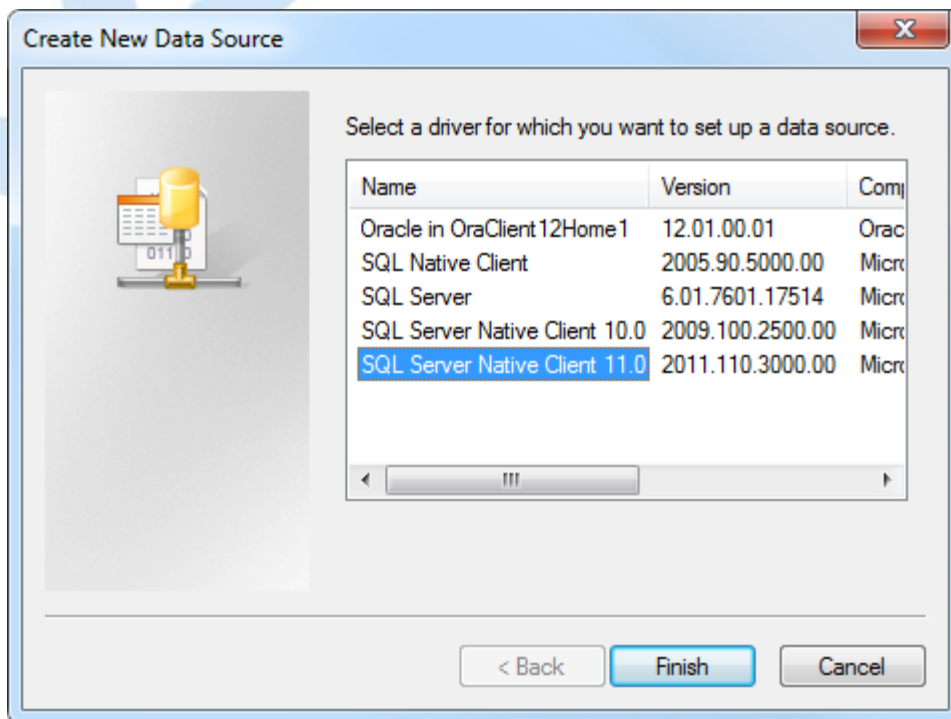
If Creating a Cencon 5 database the ODBC can only be a System DSN and a user with SYSDBA privileges must be used to create the database.

If Updating a Cencon 5 database the ODBC can only be a System DSN and a user with appropriate privileges must be used to update the database.

1. Go to control Panel/Administration Tools/Data Sources.
2. Select the System DSN tab and click **Add**.

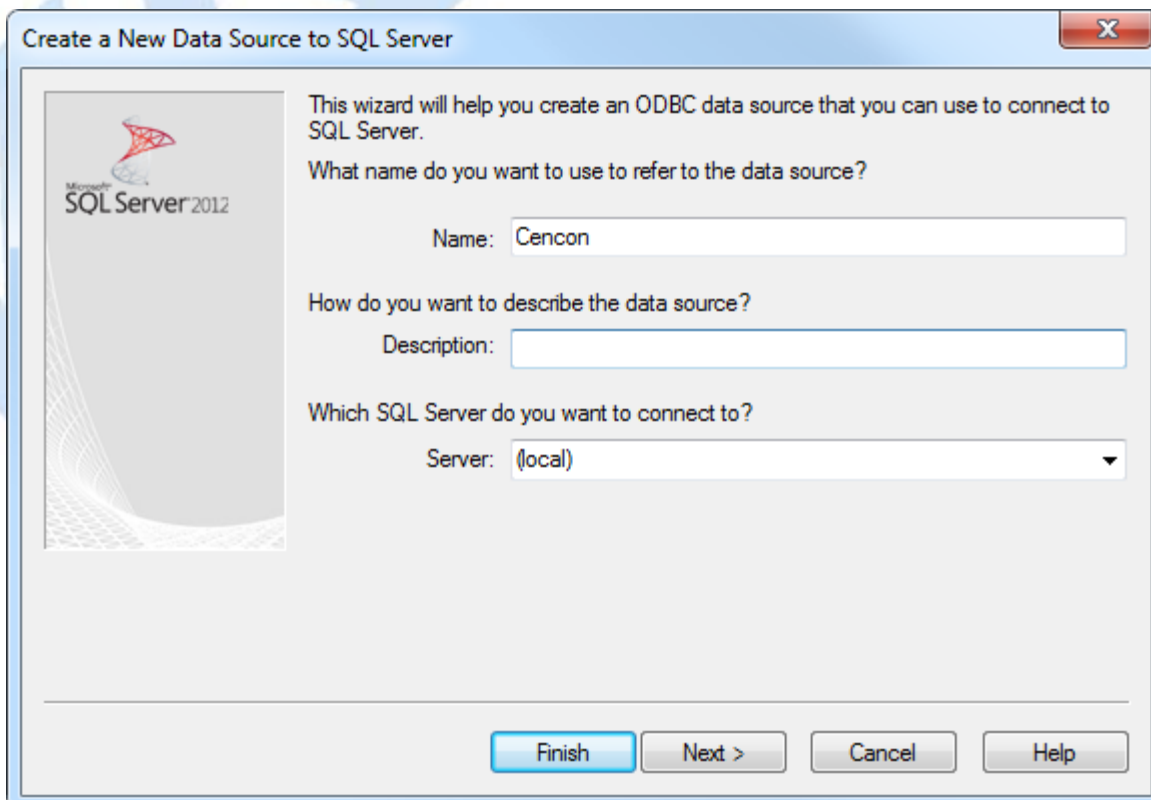


3. Select the ODBC driver matching your database management system (DBMS) and click **Finish**.



4. Enter the initial configuration of the new ODBC Connection:

- Type a name for the new ODBC connection.
- Type a description of the new ODBC connection for your reference as desired.
- Type the name of the database server to connect to, or select a database server from the drop down menu. Depending on your network configuration, your database server may or may not appear in the drop down menu.
- Click **Next** to continue with setting up the new ODBC connection.



5. This ODBC connection configuration page allows you to choose the method of authentication to connect to Microsoft SQL Server. Microsoft SQL Server allows two methods of authentication. The default is integrated Windows authentication, using the same logon that you use to log onto a Windows network. The other method is using SQL Server authentication by user name and password. The method of authentication will be dependent on how you want to secure your database. You will need to have authorization to log onto your instance of Microsoft SQL Server by one of these methods. Click **Next** to continue to the next configuration page.

Important Note

Windows authentication is associated with a user logging onto a Windows computer or network using Active Directory.

In the case of the CenTran service, the service starts up in the background on the server it has been installed on, without an associated user logging on. The CenTran service does not have a Windows authentication associated with it unless you have made some special configuration of one for it on your network.

The most common solution is to set up SQL authentication on your instance of Microsoft SQL server, and set up SQL authentication for CenTran to use to access the Cencon database.

Microsoft SQL Server 2012

How should SQL Server verify the authenticity of the login ID?

With Integrated Windows authentication.

SPN (Optional):

With SQL Server authentication using a login ID and password entered by the user.

Login ID:

Password:

< Back Next > Cancel Help

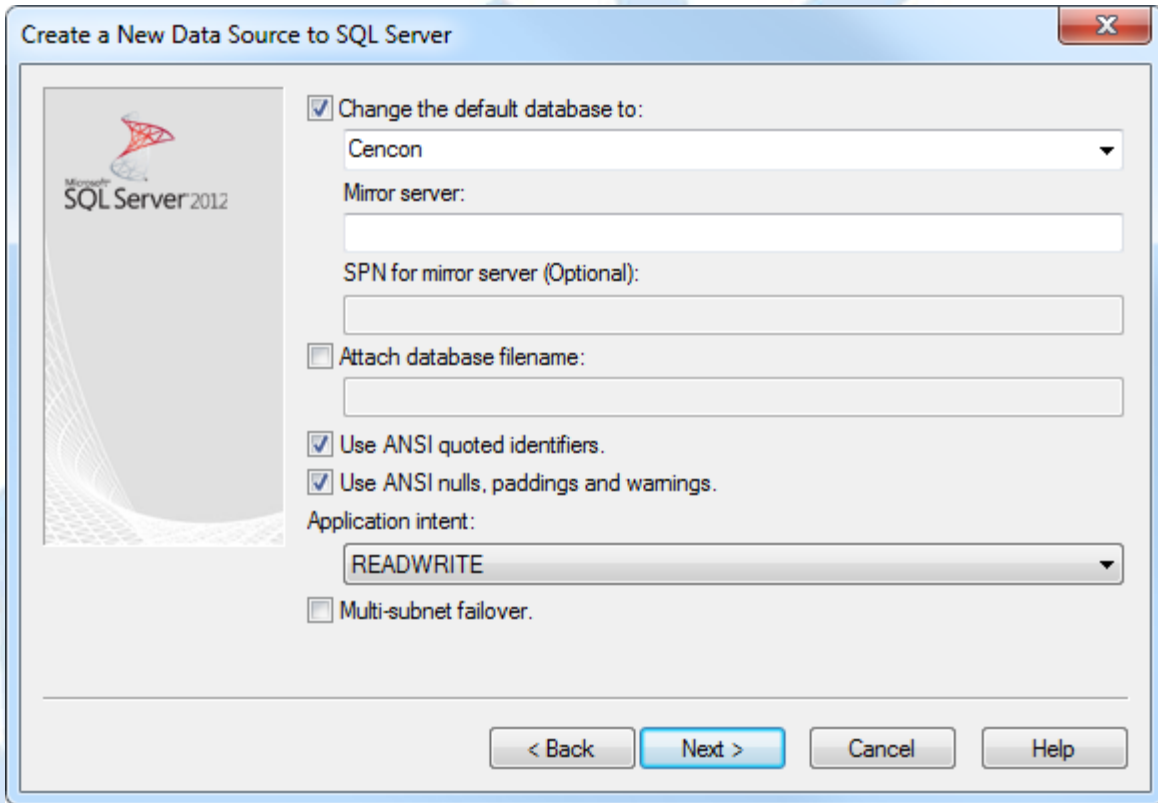
6. You should now see the database (also called catalog) settings for the new ODBC connection. The default is master. If you have already set up a database under Microsoft SQL server that you want to use, check the box marked **Change default database to**. Then select the database that you want the ODBC connection to point to. If you have not set up a database yet, the Cencon Database Setup Utility will do that for you, and update the ODBC connection appropriately. Click **Next** to continue to the next configuration page.

Note

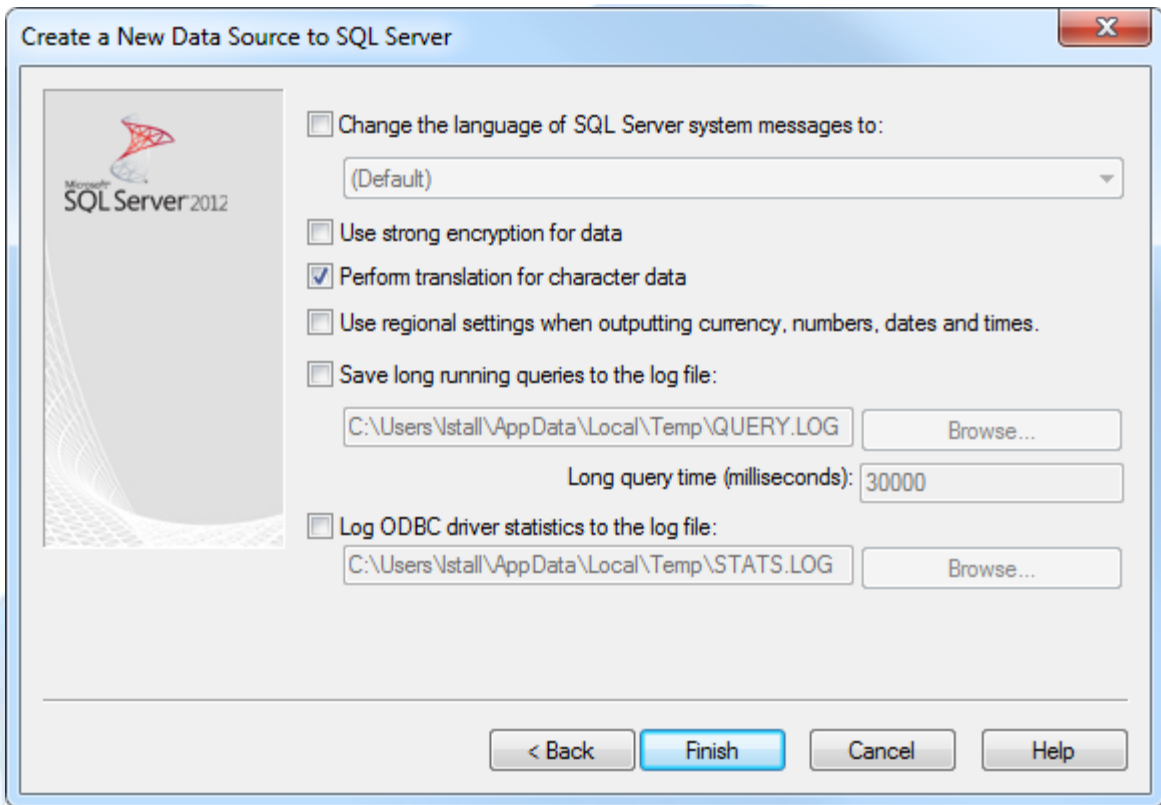
For Microsoft SQL server, master is actually a special database within the database management system that is used to track information about all of the other databases set up under Microsoft SQL server. You should never actually use master to store your own data.

Important Note

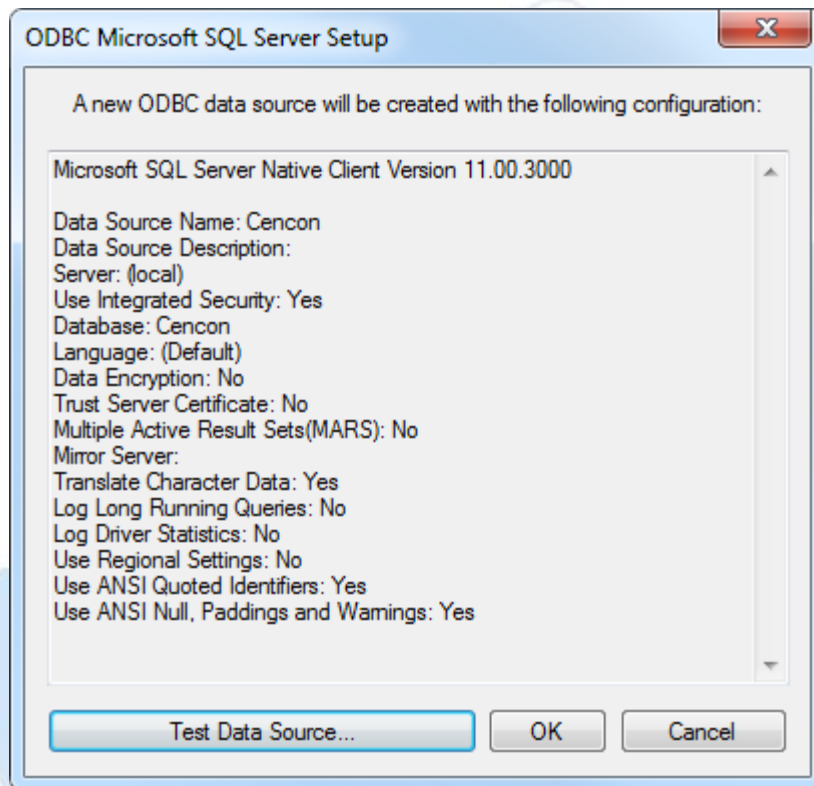
If simply adding an ODBC connection to connect to an existing Cencon database, change to the appropriate database.



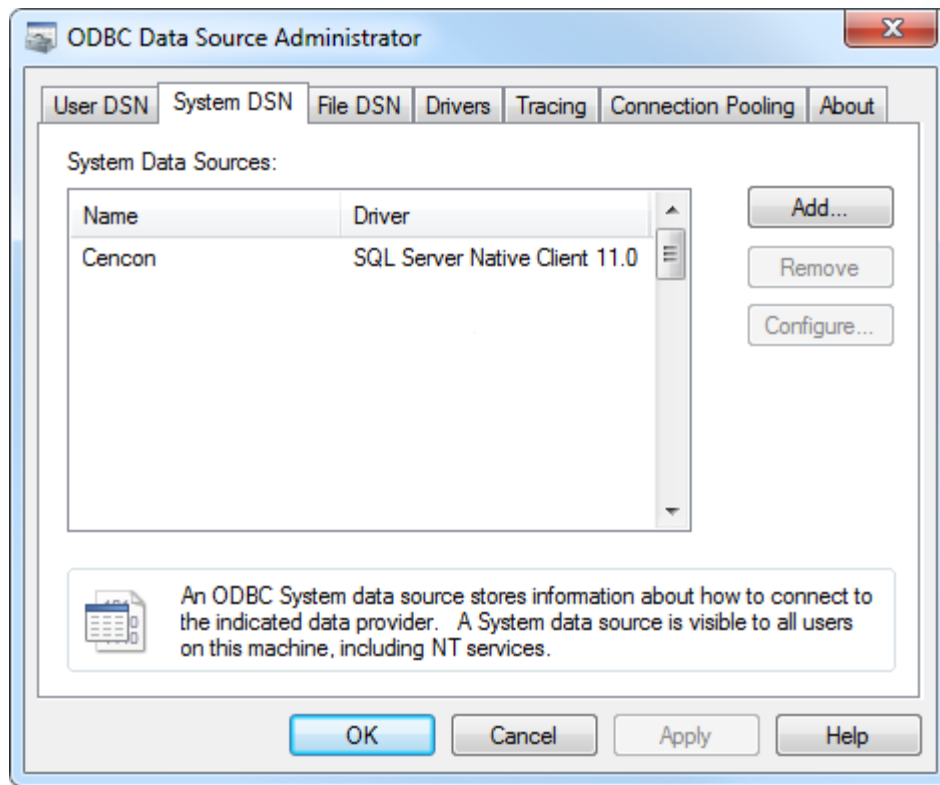
7. This is the final configuration page of creating a new ODBC connection for Microsoft SQL Server. This page contains miscellaneous settings for language, encryption, regional date/time, and database logging. Click **Finish** to complete the setup of the new ODBC connection.



8. You should now see a successful test result dialog for the new ODBC connection. If an error is displayed, you may need to adjust settings or check your password for the ODBC connection to your database. Click **OK** to close the dialog.



9. You should now see the new ODBC connection listed in the ODBC management dialog. Click **OK** to close the dialog.



Cencon® 5 Getting Started Guide

Oracle Configuration

You will need to install and configure an Oracle database. You will also need to download and install the Oracle client software for each client system accessing the Oracle database.

The following is some common considerations for the installation and configuration of these components. Note: You may not have to do any of the following configuration items for your Oracle installation. The Oracle configuration will vary depending on your requirements.

Note

Oracle 12c supports a new multitenant architecture of sub databases hosted by a single container database. The container database is called the **Multitenant Container Database (CDB)**.

The sub databases are called **Pluggable Database (PDB)**. To client applications, **PDB** operate exactly like the non-multitenant architecture databases used by previous versions of Oracle.

For Oracle database deployment planning, it is intended that a **PDB** be used to hold a single application backend.

The given recommended Cencon database schema permissions is for restricted access to a single schema under a single Oracle **PDB**. Cencon, CenTran, and the CenconDBSetupUtility do not require access to the Oracle **CDB**. Cencon, CenTran, and the CenconDBSetupUtility only require access to a single Oracle database schema on a **PDB**. They do not require access to anything outside of the assigned Oracle database schema on a **PDB**.

Install the Cencon database under a single schema on a dedicated **PDB**.

Oracle Database Configuration - tnsnames.ora

The Oracle **tnsnames.ora** file determines service names and system identifiers used by the Oracle database. Note that Oracle has two methods of identifying Oracle databases: Service Names and SID (Oracle System Identifier)

SID are an older method of identifying Oracle databases. For pre-release Oracle 8.1 databases, SID is used to identify the database.

The Oracle **tnsnames.ora** file will be located in the following directory:

```
install_drive_letter:\app\your_install_name\product\12.1.0\dbhome_1\NETWORK\ADMIN\tnsnames.ora
```

You **may** need to modify your **tnsnames.ora** file to identify the **PDB** intended to contain your Cencon schema. The following is an example of an entry to add to your **tnsnames.ora** file.

```
CENCON_PDB_NAME =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = cencon_pdb_name)
    )
  )
```


Oracle Database Configuration - listener.ora

The Oracle **listener.ora** file determines network services and associated databases provided by the Oracle database.

The Oracle **listener.ora** file will be located in the following directory:

```
install_drive_letter:\app\your_install_name\product\12.1.0\dbhome_1\NETWORK\ADMIN\listener.ora
```

You **may** need to modify your **listener.ora** file to identify the **PDB** intended to contain your Cencon schema. The following is an example of an entry to add to your **listener.ora** file.

```
(SID_DESC =
  (SID_NAME = CENCON_PDB_NAME)
  (ORACLE_HOME = D:\app\test\product\12.1.0\dbhome_1)
)
```

An example of the entire Oracle **listener.ora** file is as follows:

```
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = CLRExtProc)
      (ORACLE_HOME = D:\app\test\product\12.1.0\dbhome_1)
      (PROGRAM = extproc)
      (ENVS = "EXTPROC_DLLS=ONLY:D:\app\test\product\12.1.0\dbhome_1\bin\oraclr12.dll")
    )
    (SID_DESC =
      (SID_NAME = CENCON_PDB_NAME)
      (ORACLE_HOME = D:\app\test\product\12.1.0\dbhome_1)
    )
  )
)

LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1521))
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
    )
  )
)
```

Connecting using SQL*Plus to the Oracle CDB:

To manage your Oracle **CDB**, you can connect SQL*Plus to it in the following manner:

```
sqlplus sys@orcl AS sysdba
Enter password: your_password_here
```

Ensuring that the Oracle PDB is open at database server startup or reboot:

The Oracle **PDB** do not automatically start up when the Oracle **CDB** starts. You will probably need to set up a trigger with your Oracle **CDB** to ensure that the Oracle **PDB** containing the Cencon schema starts up when your Oracle database starts.

An example SQL script to create a trigger to start any mounted Oracle **PDB** is as follows:

```
CREATE OR REPLACE TRIGGER open_pdb
```

```
AFTER STARTUP ON DATABASE
BEGIN
    EXECUTE IMMEDIATE 'ALTER PLUGGABLE DATABASE ALL OPEN' ;
END open_pdbs;
/
```

You will need to execute the SQL script from either Oracle SQL Developer or SQL*Plus while connected to your Oracle **CDB**. To execute a file named `pdb_auto_start.sql` with an SQL script from SQL*Plus, you will need to enter something similar to the following:

```
SQL> @c:\pdb_auto_start.sql
```

Connecting using SQL*Plus to the Oracle PDB:

To manage your Oracle **PDB**, you can connect SQL*Plus to it in the following manner:

```
sqlplus sys@cencon_pdb_name AS sysdba
Enter password: your_password_here
```

You should now have an SQL> prompt. To start your Oracle **PDB**, you will need to enter the following:

```
SQL> startup
```

To display available pluggable databases (PDB), you will need to enter the following:

```
SQL> show pdbs
```

Items to check for connectivity to the Oracle PDB:

To check network connectivity to the Oracle listener on the database server:

```
tnsping localhost
```

To check network connectivity to the Oracle listener from a client computer:

```
tnsping your_oracle_server_name_or_address_here
```

To check status of the Oracle listener on the database server:

```
lsnrctl status
```

Items to check for Oracle database status:

To access SQLPLUS without knowing database status:

```
sqlplus /nolog
```

You should now have an SQL> prompt. Connect to the Oracle instance:

```
SQL> connect sys/your_password_here as sysdba
```

To check status of the Oracle databases:

```
SQL> select instance_name,status,database_status from v$instance;
```

To mount an Oracle database: (Default is to mount as an open database.)

```
SQL> alter database mount;
```

To open a mounted but closed Oracle database:

```
SQL> alter database open;
```

To shut down an Oracle database:

```
SQL> shutdown immediate;
```

To start up an Oracle database:

```
SQL> startup;
```

To check the processes parameter for the Oracle database:

```
SQL> show parameter processes
```

To change the processes parameter for the Oracle database: (This is for a database startup with parameters from spfile. Restart the database to run with the new parameters.)

```
SQL> alter system set processes=450 scope=spfile;  
SQL> shutdown immediate;  
SQL> startup;
```


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ODBC Connection Creation for Oracle

ODBC (Open Database Connectivity) is a standard C interface for accessing database management systems (DBMS). The designers of ODBC aimed to make it independent of database systems and operating systems. An application can use ODBC to query data from a DBMS, regardless of the operating system or DBMS it uses.

ODBC accomplishes DBMS independence by using an *ODBC driver* as a translation layer between the application and the DBMS. The application uses ODBC functions through an *ODBC driver manager* with which it is linked, and the driver passes the query to the DBMS.

Important Note

You will need to have created an Oracle database user to host the Cencon database. The Oracle database user you create will need to be configured with the minimum permissions as described under the [Database User Permissions \(Oracle\)](#) section.

Note

Oracle 12c supports a new multitenant architecture of sub databases hosted by a single container database. The container database is called the **Multitenant Container Database (CDB)**.

The sub databases are called **Pluggable Database (PDB)**. To client applications, **PDB** operate exactly like the non-multitenant architecture databases used by previous versions of Oracle.

For Oracle database deployment planning, it is intended that a **PDB** be used to hold a single application backend.

Your ODBC driver connection will need to specify the Oracle **PDB** to connect to. For example, if your **PDB** is named CENCONPDB, then you would need to set up your ODBC connection to specify CENCONPDB for the instance to connect to.

Install the Cencon database under a single schema on a dedicated **PDB**.

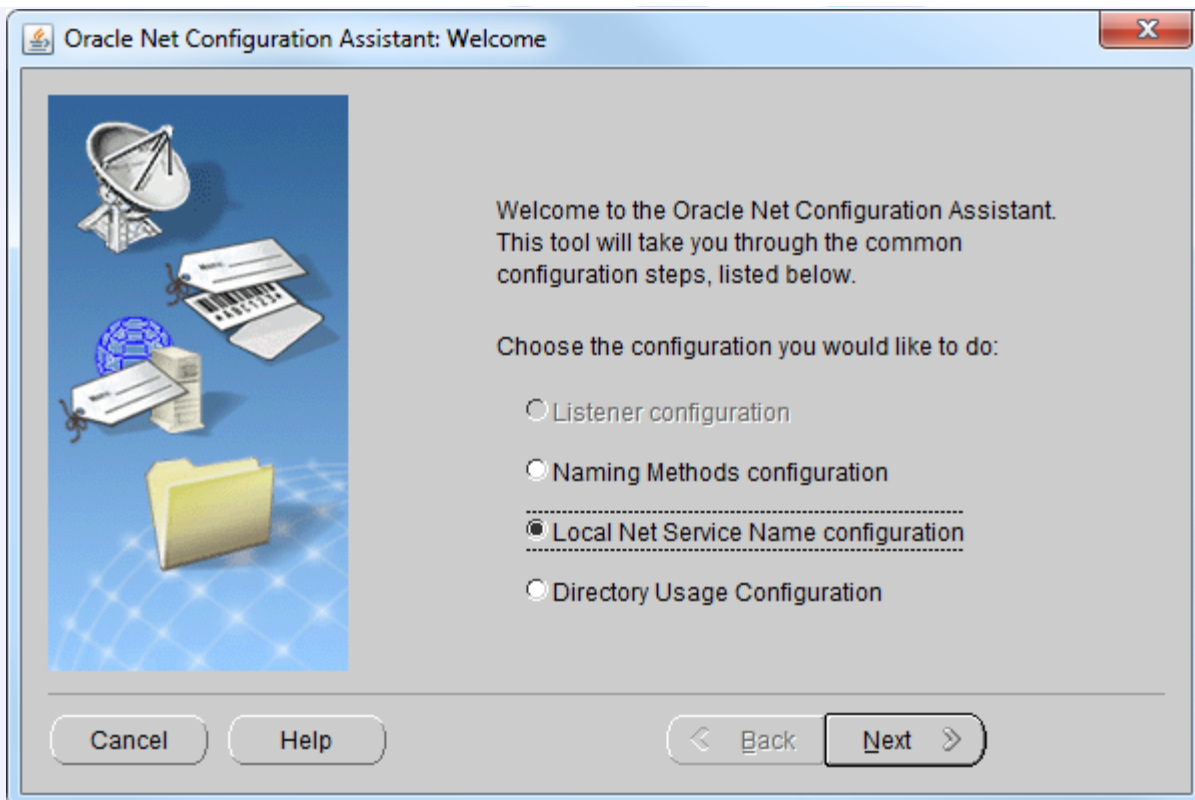
Important Note

Install the current Oracle ODBC Client software for 12c instant client or higher.

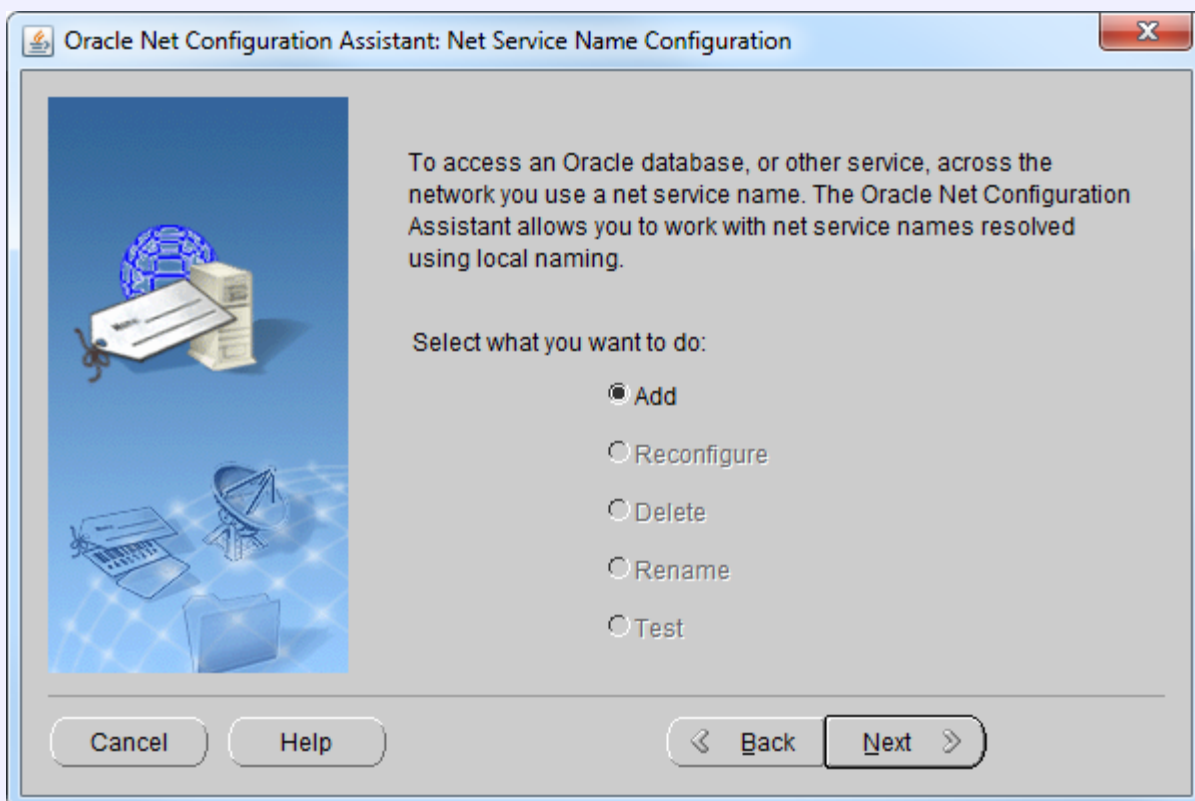
<http://www.oracle.com/technetwork/database/enterprise-edition/downloads/database12c-win64-download-1968077.html>

You will need to run the Oracle **Net Configuration Assistant** to set up Oracle client access. This can be found under the Windows Start menu under Oracle - Configuration and Migration Tools.

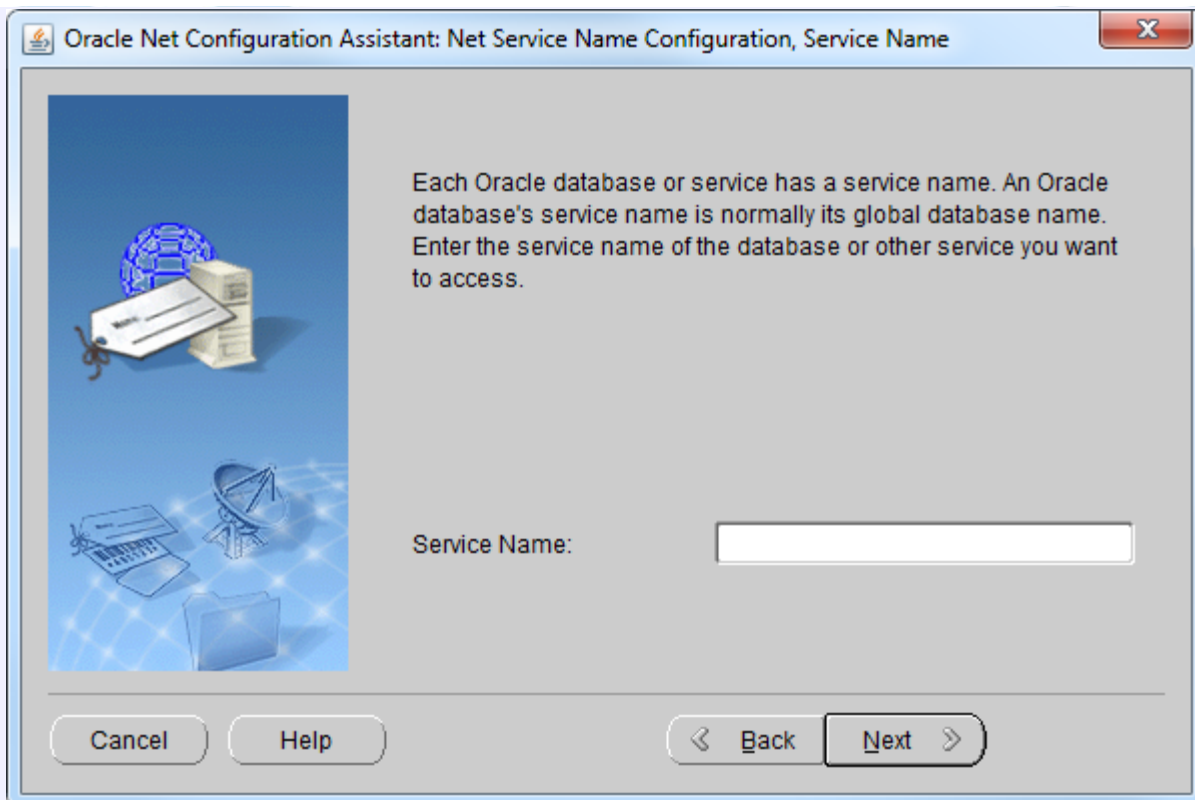
Select **Local Net Server Name configuration**, and click **Next**.



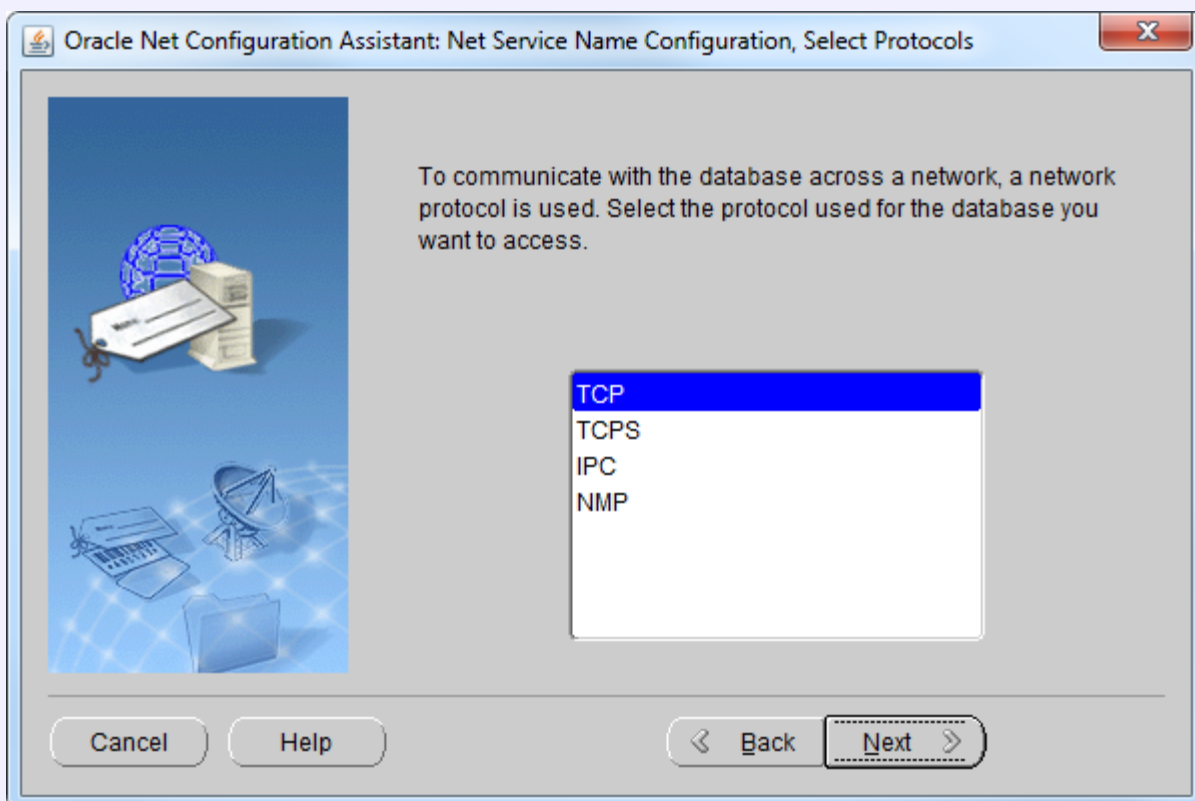
Select the **Add** operation, and click **Next**.



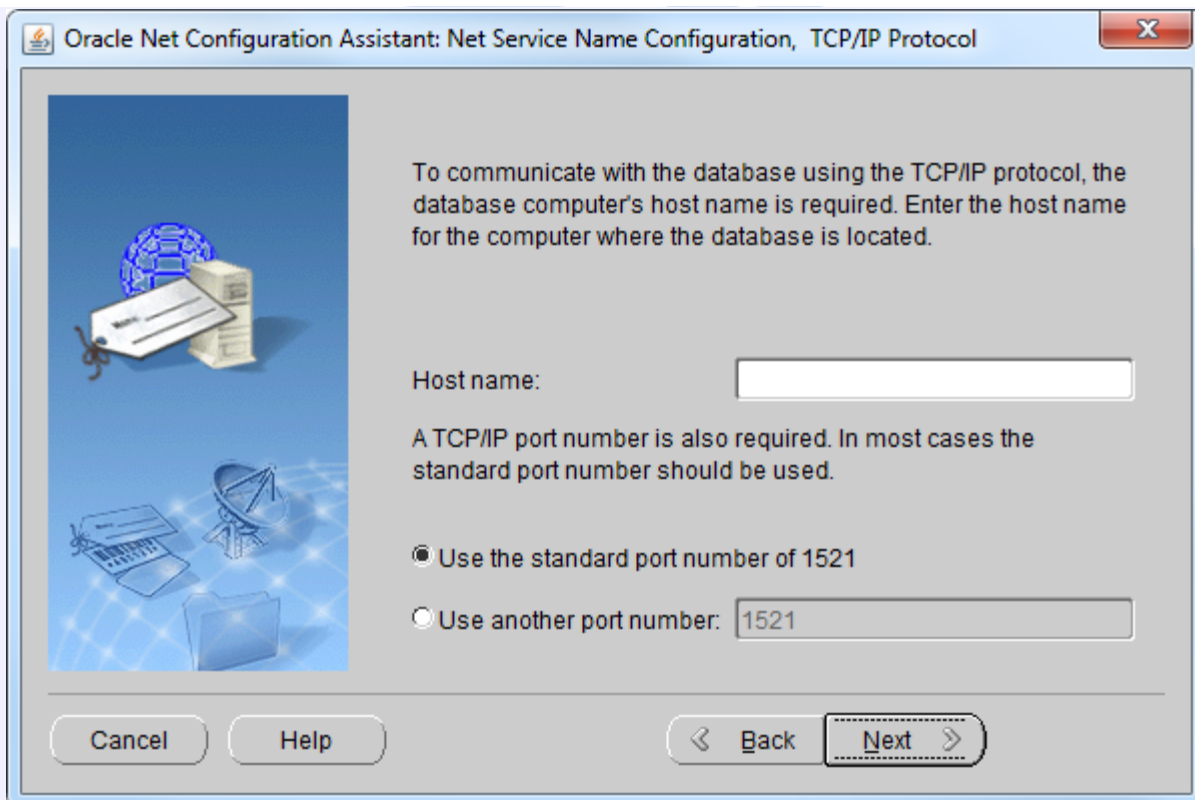
Enter the service name for the Oracle **PDB** containing the Cencon schema, and click **Next**. The default **PDB** service name installed with Oracle is pdborcl.



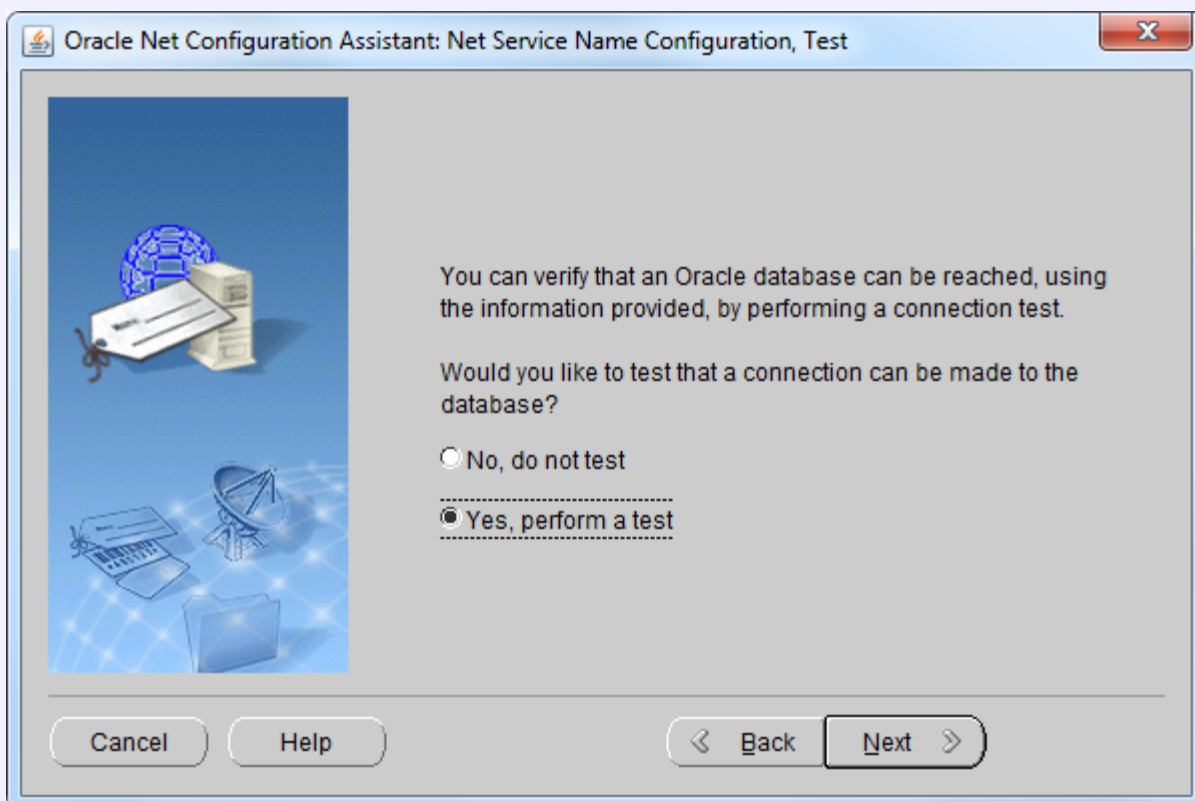
Select the protocol used to communicate with your Oracle database, and click **Next**. This will most likely be **TCP**.



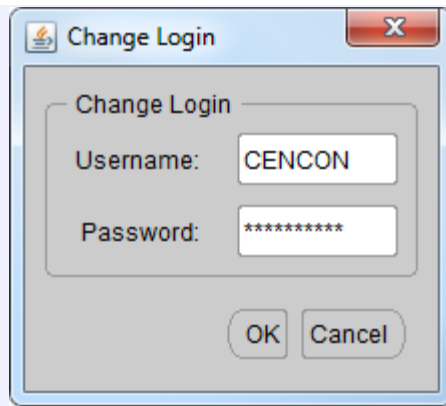
Enter the server network host name for your Oracle database. This will be either a TCP/IP address or a fully qualified computer name if you are on a network with a domain name server. The Oracle listener port will most likely be left with the default value of 1521. Select **Next**.



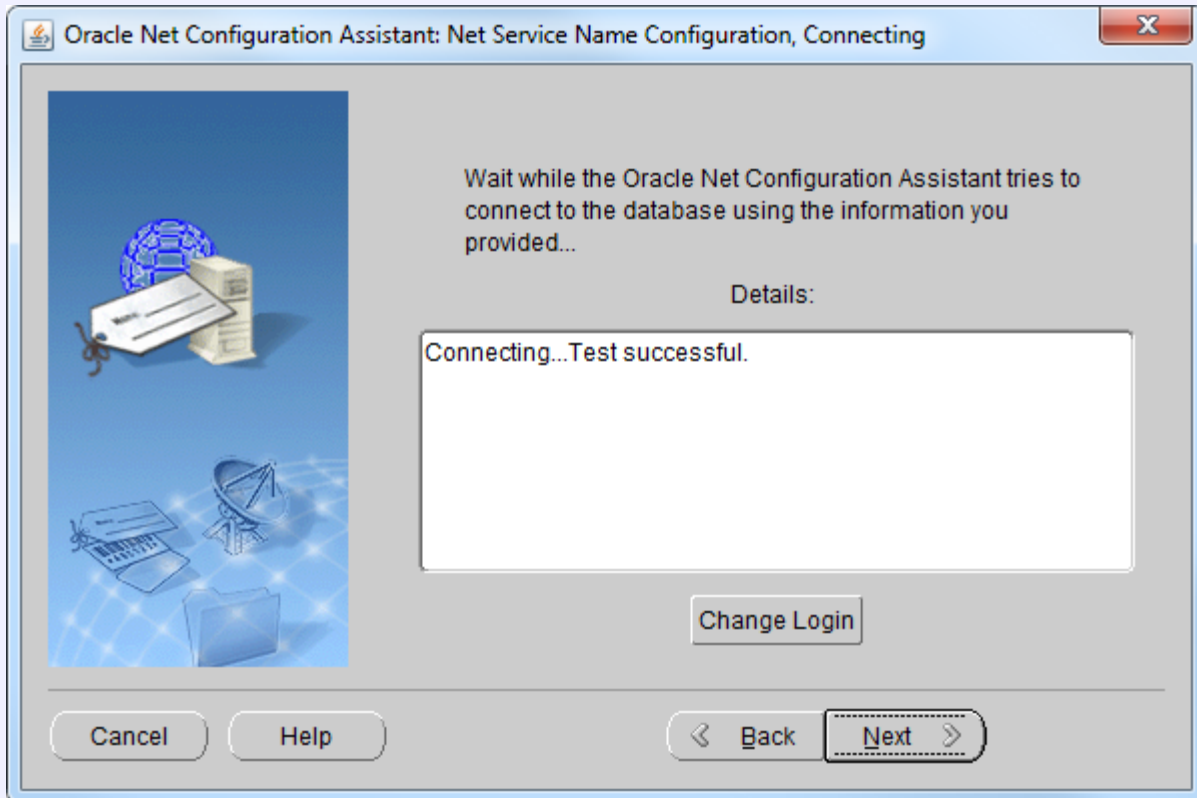
Select if you want to test the connection. It is recommended to test. Select **Next**.



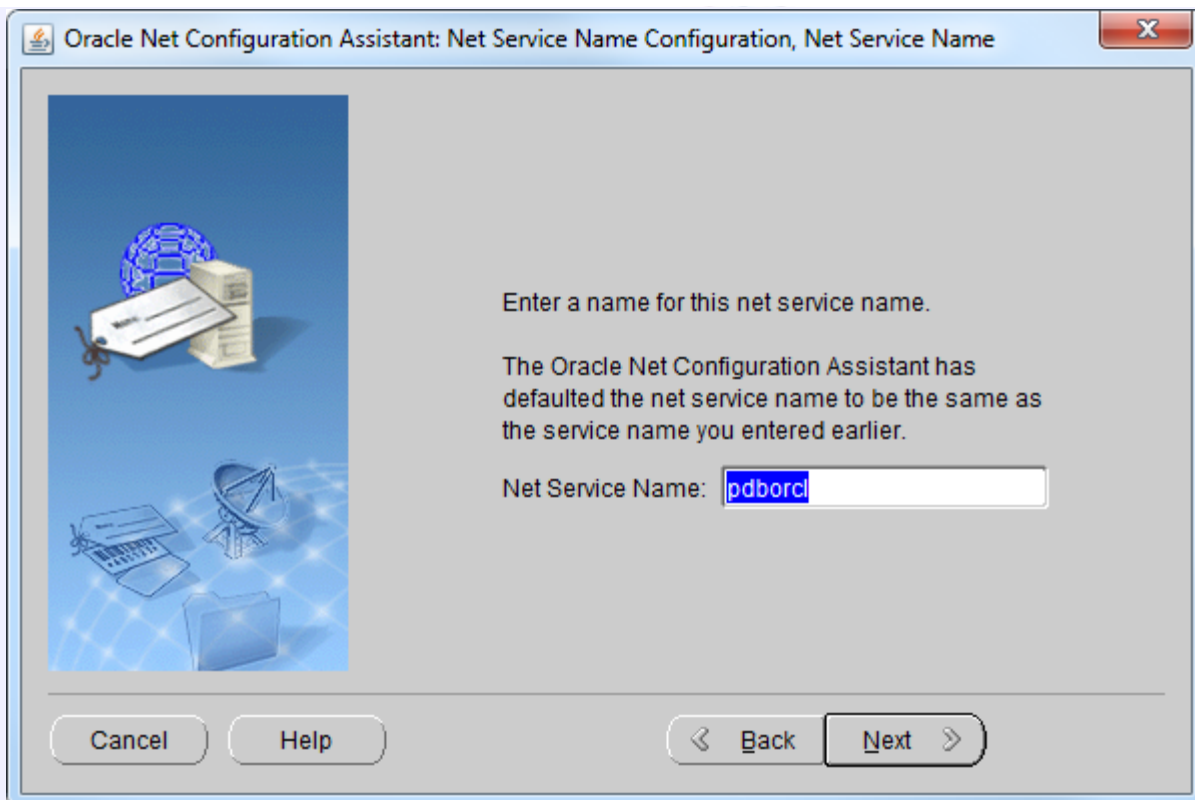
Check the details of the test result. Select **Change Login** or select **Back** as needed to ensure that the settings are correct. For the login will enter the schema name you created to contain the Cencon data, along with the password you selected. Select **Next** when you have a successful test.



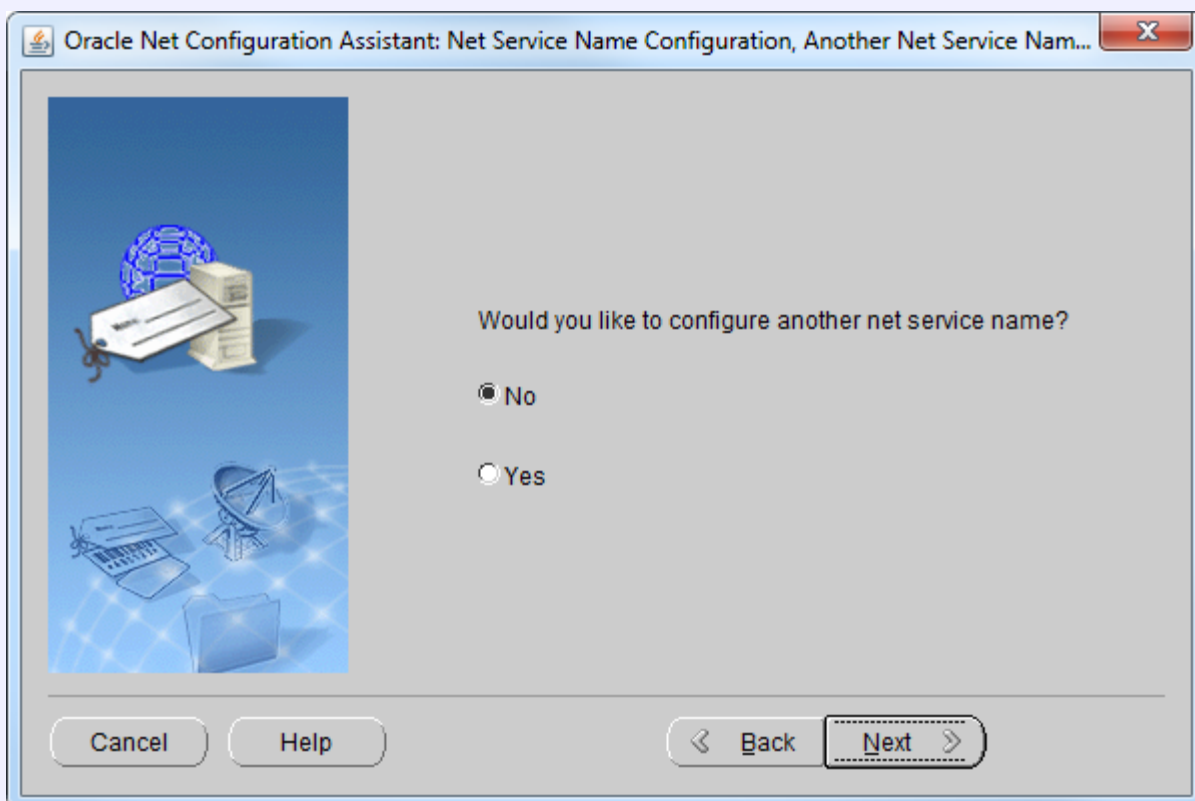
Select **Next** when you have a successful test.



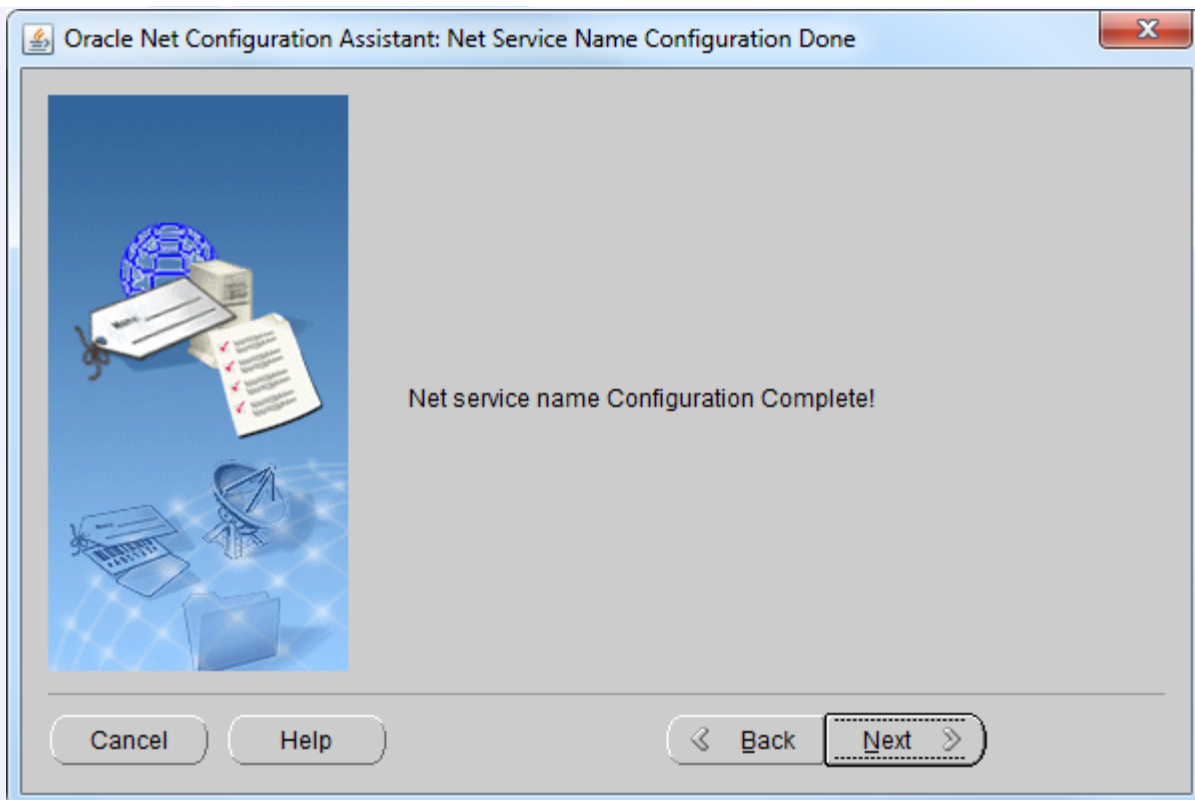
Enter the name you want to use for the configured network service name for the Oracle **PDB**. By default this is the same as the service name. Select **Next** when you have entered a name or left the default as desired.



Select if you want to configure another network service name. If you are done, select **No**. Select **Next**.



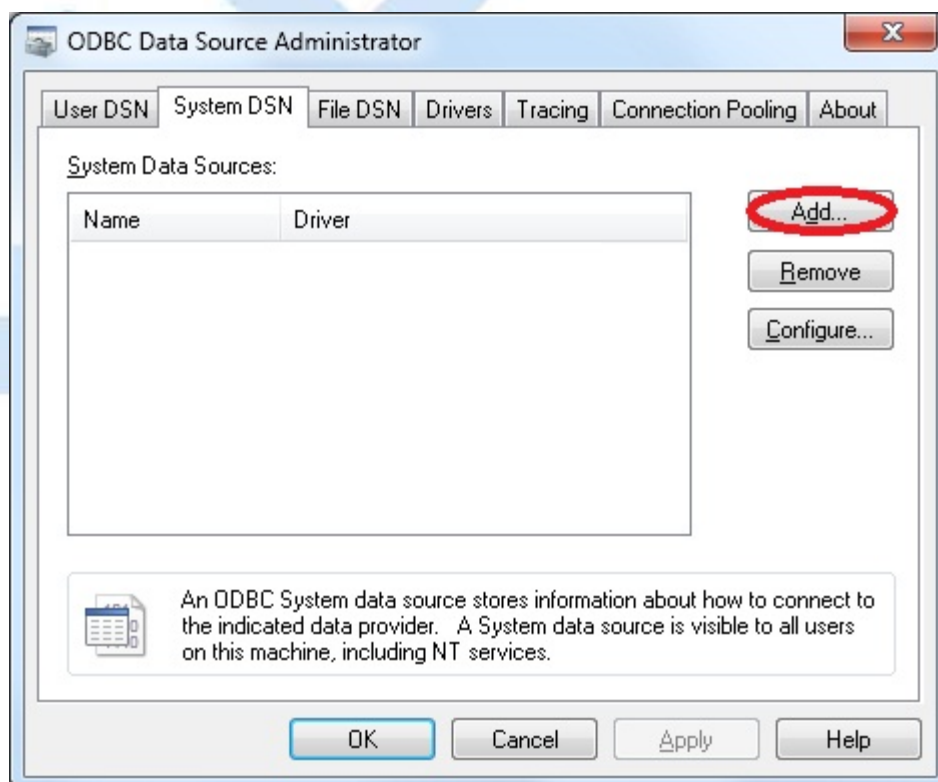
You should see name configuration complete.



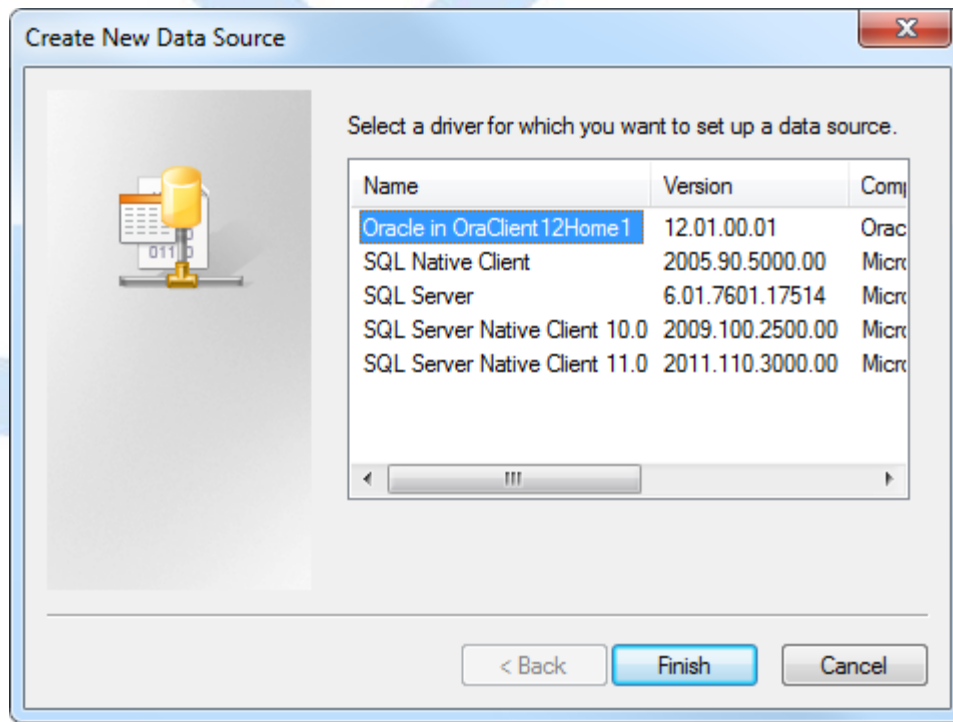
1. Go to Control Panel/Administration Tools/Data Sources (ODBC):

Note: You may have to right click on Data Sources (ODBC) and select **Run as administrator**.

2. Select the System DSN tab and Click **Add**.



3. Select the Oracle ODBC driver you have installed and click **Finish**. This will match the Oracle home for the client you have installed.



4. Set up the ODBC driver configuration to connect to your Oracle database instance:

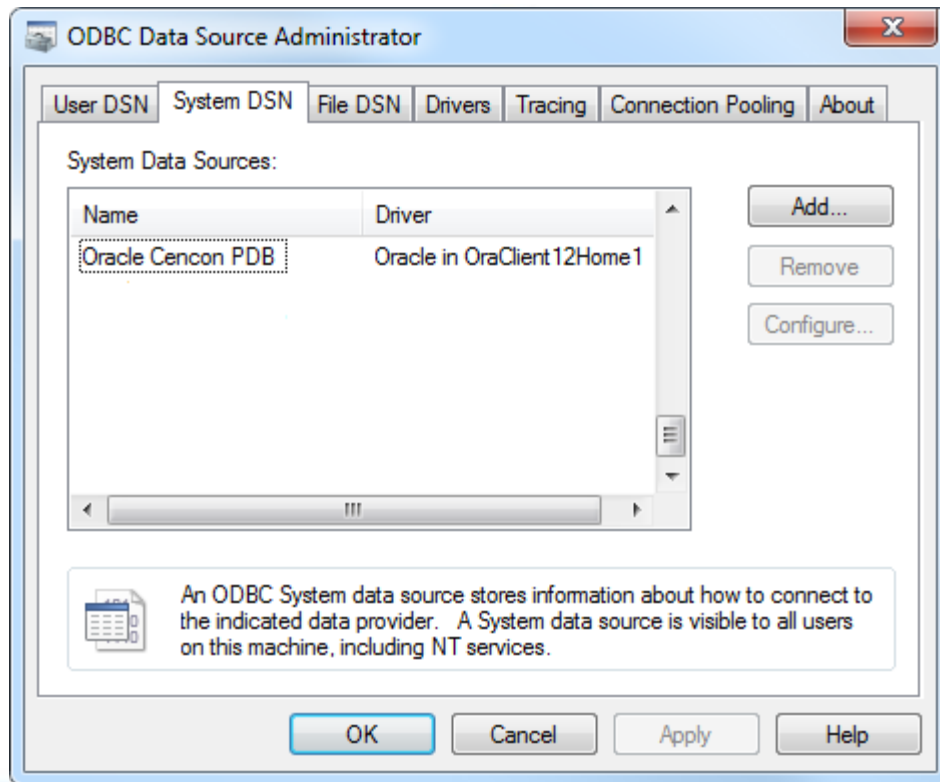
- Enter the desired Data Source Name and description.
- Enter the configured network service name created using the Oracle **Net Configuration Assistant**.
- Enter database schema name used to contain the Cencon data. The schema name must be the user set up to host the Cencon database, with the appropriate permissions set. See [Database User Permissions \(Oracle\)](#).
- Click **OK**.

The screenshot shows the 'Oracle ODBC Driver Configuration' dialog box. It has a title bar with the text 'Oracle ODBC Driver Configuration'. The main area contains several input fields: 'Data Source Name' with the value 'Oracle Cencon PDB', 'Description' with 'Cencon Database Schema', 'TNS Service Name' with a dropdown menu showing 'pdborcl', and 'User ID' with 'CENCON'. To the right of these fields are four buttons: 'OK' (highlighted in blue), 'Cancel', 'Help', and 'Test Connection'. Below the input fields is a tabbed interface with three tabs: 'Application' (selected), 'Workarounds', and 'SQLServer Migration'. The 'Application' tab contains several options: 'Enable Result Sets' (checked), 'Enable Query Timeout' (checked), 'Read-Only Connection' (unchecked), 'Enable Closing Cursors' (unchecked), and 'Enable Thread Safety' (checked). There are also two dropdown menus: 'Batch Autocommit Mode' set to 'Commit only if all statements succeed' and 'Numeric Settings' set to 'Use Oracle NLS settings'.

- You will be prompted for a password to authenticate your database connection.
- Enter your selected password and click **OK**.

The screenshot shows the 'Oracle ODBC Driver Connect' dialog box. It has a title bar with the text 'Oracle ODBC Driver Connect' and a close button (X). The main area contains three input fields: 'Service Name' with the value 'pdborcl', 'User Name' with 'CENCON', and 'Password' which is currently empty. To the right of these fields are three buttons: 'OK' (highlighted in blue), 'Cancel', and 'About...'.

5. Click **OK** to close



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Database Permissions for SQL Server

Permissions required for Cencon Client connectivity and utilization.

1. Run **SQL Server Management Studio**. This is the management tool provided with Microsoft SQL Server. You will be prompted to connect to your instance of Microsoft SQL Server.

2. Under the **Object Explorer** pane, expand the **Security** section. You should see a **Logins** as the first section under **Security**. Right click the **Logins** section and select **New Login...**

3. You should see displayed the **Login - New** dialog.

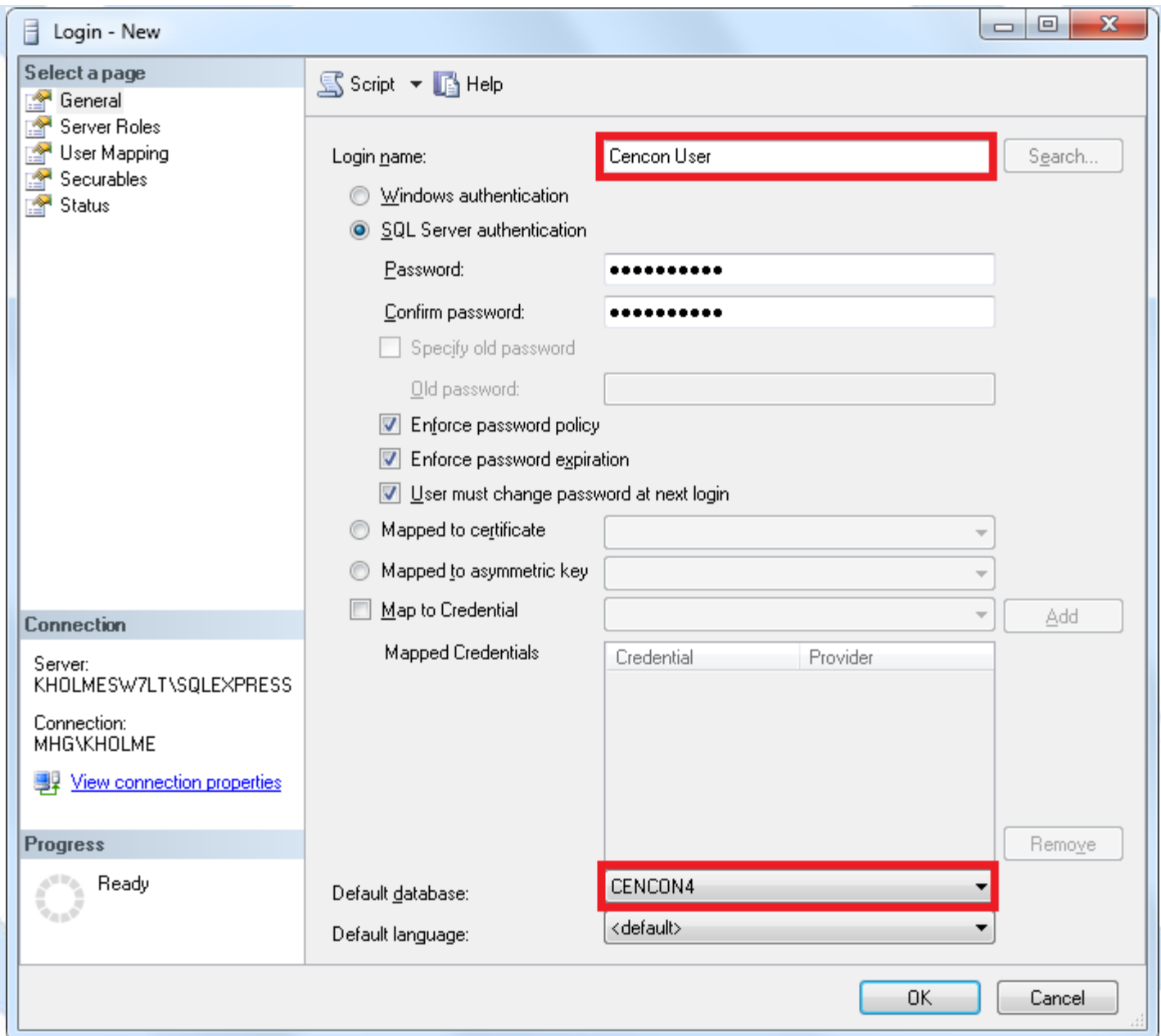
- Enter the name for the new database logon.
- Choose Windows or SQL authentication.

If you choose Windows authentication, the login name must match a user on your network.

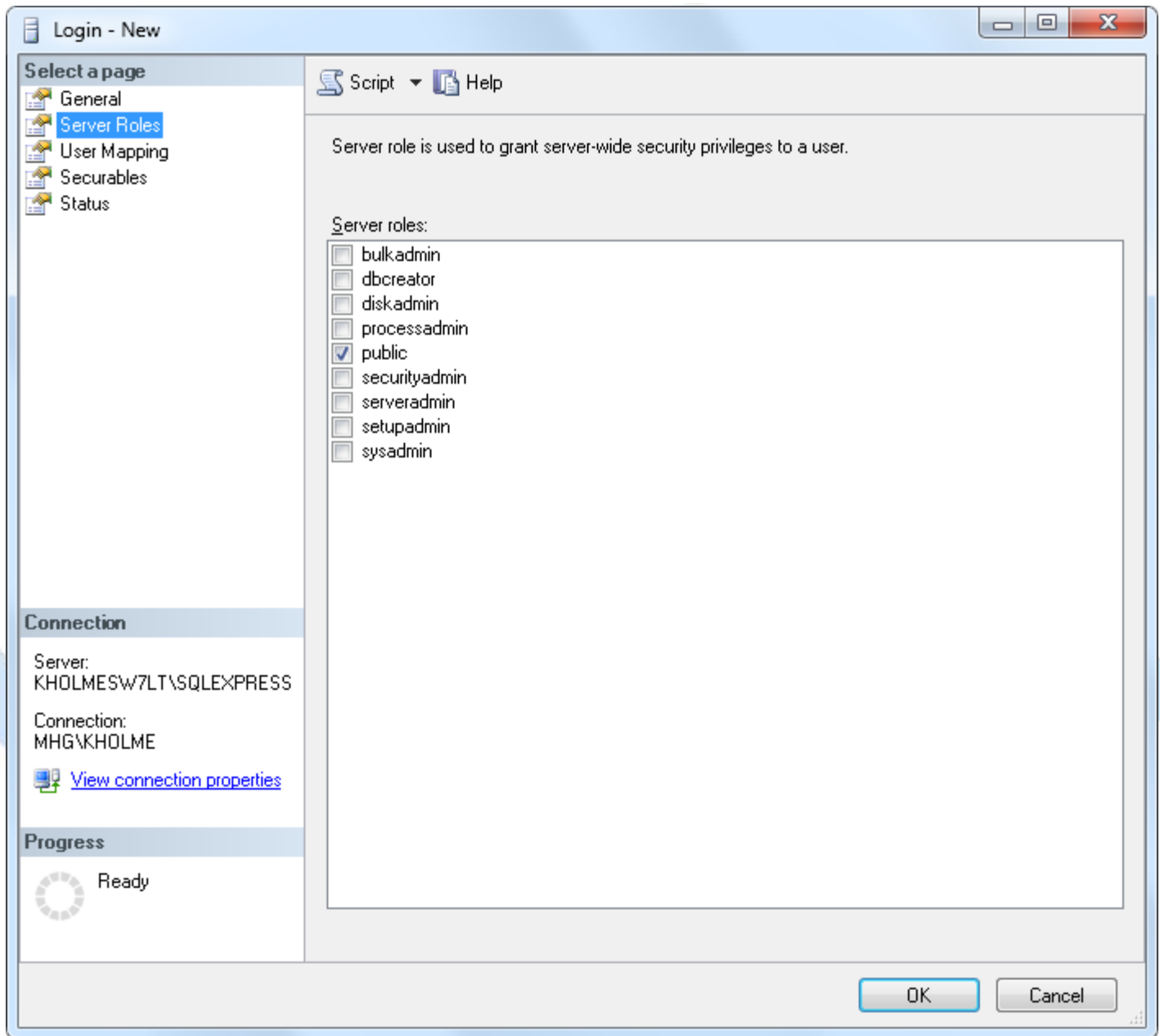
If you choose SQL authentication, you will need to enter and confirm a password.

If you are setting up a login for the CenTran service, you will probably need to use SQL authentication unless you have associated the CenTran service with a Windows authentication on your network.

- Change the default database to the name of your Cencon database.

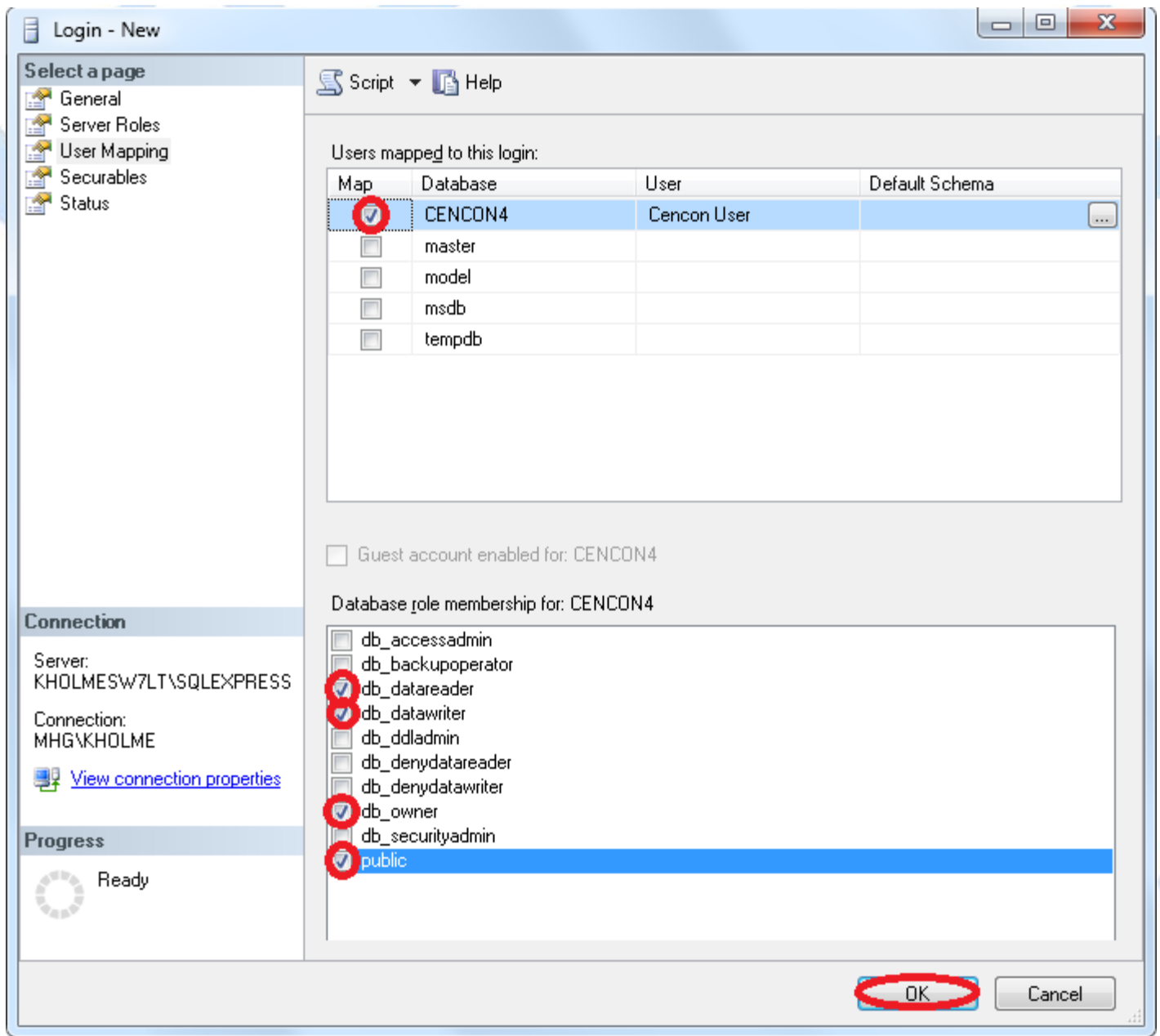


2. Select the **Server Roles** page from the list on the left hand side of the dialog. The **Server Roles** page should be displayed with a list of roles. Public is selected by default.



3. Select the **User Mapping** page from the list on the left hand side of the dialog. The **User Mapping** page should be displayed with a list of databases.

- User mapped to this Login check the Cencon Database.
- Select the Cencon database that you are using. At the bottom of the page should be displayed a set of database role memberships.
- Select the following database role memberships by checking the box beside of each:
 - db_datareader
 - db_datawriter
 - db_owner
 - public
- Click **OK** to finish setting up the new database login.



Cencon® 5 Getting Started Guide

Database Permissions For Oracle

You will need to set up a Oracle Database user to host the Cencon database used by Cencon and CenTran. Cencon and CenTran must use this Oracle user name to log onto the Oracle Database using the Oracle ODBC Driver.

The Oracle user name should be set up only with the permissions needed for Cencon, CenTran, and the CenconDBSetupUtility. These permissions are the minimum required by these applications. You must give the Oracle user the following minimum set of user permissions. You should not assign any additional permissions beyond those listed below.

Role:

- **CONNECT**

System Privilage:

- **CREATE SESSION**
- **CREATE TABLE**
- **CREATE VIEW**
- **CREATE PROCEDURE**
- **CREATE MATERIALIZED VIEW**
- **ON COMMIT REFRESH**

Tablespaces:

Default: **USERS**

Temporary: **TEMP**

Quota:

USERS: **unlimited**

Status:

ACCOUNT_STATUS: **unlocked**

Cencon, CenTran, and the CenconDBSetupUtility do not support setting a database schema for operations against an Oracle database. They will use the default schema defined by the Oracle ODBC connection you set up.

You must use the Oracle user you configured to host the Cencon database as your log with the Oracle ODBC driver.

Note

The listed minimum permissions do not allow Cencon, CenTran, or the CenconDBSetupUtility to access any Oracle database objects beyond those within the default schema. With the minimum permissions list above, Cencon, CenTran, and the CenconDBSetupUtility will not have any access to any other data on your Oracle database outside of the default schema for the Oracle ODBC database connection.

Note

Oracle 12c supports a new multitenant architecture of sub databases hosted by a single container database. The container database is called the **Multitenant Container Database (CDB)**.

The sub databases are called **Pluggable Database (PDB)**. To client applications, **PDB** operate exactly like the non-multitenant architecture databases used by previous versions of Oracle.

For Oracle database deployment planning, it is intended that a **PDB** be used to hold a single application backend.

The given recommended Cencon database schema permissions is for restricted access to a single schema under a single Oracle **PDB**. Cencon, CenTran, and the CenconDBSetupUtility do not require access to the Oracle **CDB**. Cencon, CenTran, and the CenconDBSetupUtility only require access to a single Oracle database schema on a **PDB**. They do not require

access to anything outside of the assigned Oracle database schema on a **PDB**.

Install the Cencon database under a single schema on a dedicated **PDB**.

Example ORACLE SQL To Create User CENCON_DATA:

```
CREATE USER "CENCON_DATA" IDENTIFIED BY "Your Password Goes Here"  
    DEFAULT TABLESPACE "USERS"  
    TEMPORARY TABLESPACE "TEMP"  
    PROFILE "DEFAULT"  
  
GO  
GRANT "CONNECT" TO "CENCON_DATA"  
GO  
ALTER USER "CENCON_DATA" DEFAULT ROLE ALL  
GO  
GRANT CREATE MATERIALIZED VIEW TO "CENCON_DATA"  
GO  
GRANT CREATE PROCEDURE TO "CENCON_DATA"  
GO  
GRANT CREATE SESSION TO "CENCON_DATA"  
GO  
GRANT CREATE TABLE TO "CENCON_DATA"  
GO  
GRANT CREATE VIEW TO "CENCON_DATA"  
GO  
GRANT ON COMMIT REFRESH TO "CENCON_DATA"  
GO  
ALTER USER "CENCON_DATA"  
    QUOTA UNLIMITED ON "USERS"
```

Cencon® 5 Getting Started Guide

Set Up New Database (SQL Server)

The Cencon® Database Setup Utility option to **Create a new Cencon database** adds all database tables, stored procedures, and constraints utilized by the Cencon® and CenTran® software.

Caution

The Cencon® Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

Select Set Up Cencon Database to launch the CenconDBSetupUtility.exe.

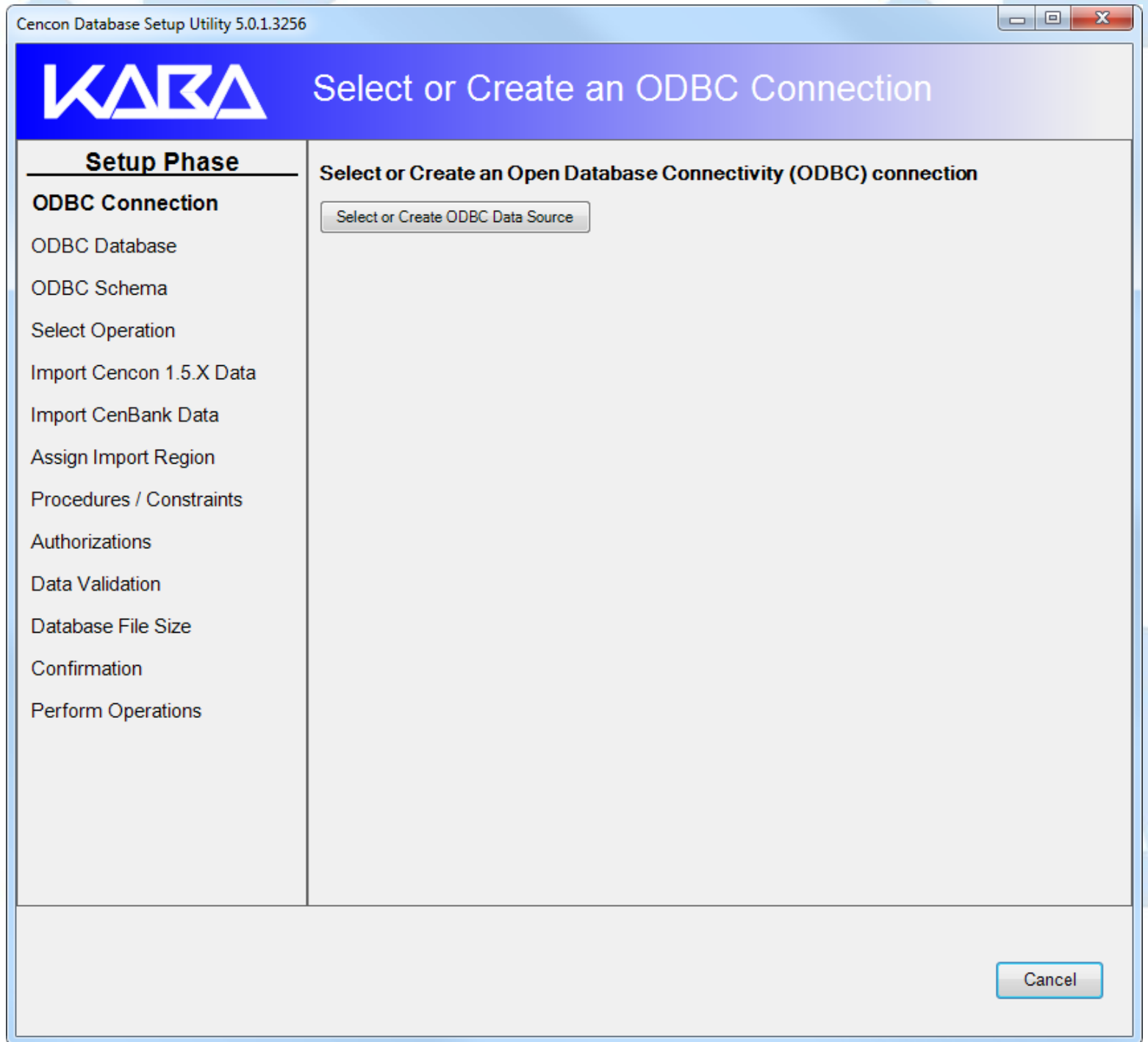
NOTE: The CenconDBSetupUtility.exe can also be launched manually by browsing the install source (DVD, USB drive, or download) to the correct folder based on your operating system:

- DBSetupUtility\Windows_32bit\CenconDBSetupUtility.exe
- DBSetupUtility\Windows_64bit\CenconDBSetupUtility.exe

1. Click the button labeled **Set Up Cencon Database**.



The Cencon Database Setup Utility will display as shown below:



2. Click the button labeled **Select or Create ODBC Data Source**. The Select Data Source dialog will be displayed. Select the **Machine Data Source** tab of the Select Data Source dialog. Then select or create the ODBC connection to your database, and click **OK**.

Note

The ODBC connection should be configured as a Machine Data Source for multiple users logging onto the same system to

access it, or for the CenTran service to access it. A user with database administrative privileges must be used to create the database.

Note

The database name cannot start with numbers or symbols.

Cencon Database Setup Utility 5.0.0.3115

KARA

Select or Create an ODBC Connection

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations

Select or Create an Open Database Connectivity (ODBC) connection

Select or Create ODBC Data Source

Select Data Source

File Data Source Machine Data Source

Data Source Name	Type	Description
00aa	System	
00connection	System	
Cencon	System	
Cencon41	System	
Cencon5	System	
CenconNCR	System	
CenconOracle	System	

New...

A Machine Data Source is specific to this machine, and cannot be shared. "User" data sources are specific to a user on this machine. "System" data sources can be used by all users on this machine, or by a system-wide service.

OK Cancel Help

Cancel

Note

When selecting an ODBC connection it may take a moment to load Data Source information.

Caution

The Cencon[®] Database Setup Utility should be run on the same machine where the DBMS is located to maximize

performance.

3. After selecting the ODBC connection to your database, the information about the ODBC connection will be displayed. Review the information about your database connection then click the **Next** button.

Setup Phase	Select or Create an Open Database Connectivity (ODBC) connection
ODBC Connection	<input type="button" value="Select or Create ODBC Data Source"/>
ODBC Database	Data Source Name: Engtestsrv24gb TestData10
ODBC Schema	User ID: MHG\Istall
Select Operation	Database Administrator: Yes
Import Cencen 1.5.X Data	Database Management System Name: Microsoft SQL Server
Import CenBank Data	Database Management System Version: 10.50.2550
Assign Import Region	Database Management System Compatibility Level: 100
Procedures / Constraints	Catalog Compatibility Level: 100
Authorizations	Server Name: ENGTESTSRV24GB
Data Validation	Database Name: TestData10
Database File Size	Instance Name: MSSQLSERVER
Confirmation	Default Schema Name: dbo
Perform Operations	Case Sensitive: No
	Workstation Time and Zone: 2013/10/15 12:01:49 : Eastern Daylight Time
	DB Server Time and Zone: 2013/10/15 12:01:49 : (UTC -4 Hours)
	Workstation IP Address: 10.108.6.103
	Database Server IP Address: 10.108.6.111
	Database Setup Version: 3256

4. The page to select or create a database will be displayed. Use the default database, or type the database name to be created. Click **Next**.



Select or Create a Database

Setup Phase

- ODBC Connection
- ODBC Database**
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations

Select the database from the pulldown or enter a new database name.

Database Name: (Required)

CENCON5

<< Back

Next >>

Cancel

If you entered a new database name, a message indicating that the new database was created will be displayed. Click **OK**.



Select or Create a Database

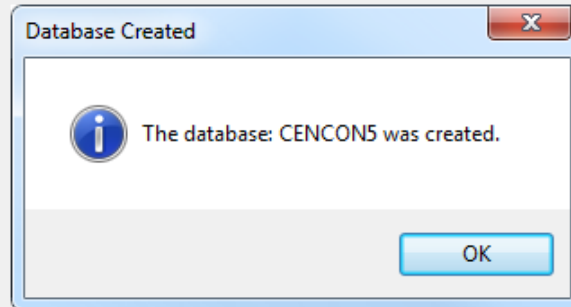
Setup Phase

- ODBC Connection
- ODBC Database**
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations

Select the database from the pulldown or enter a new database name.

Database Name: (Required)

CENCON5

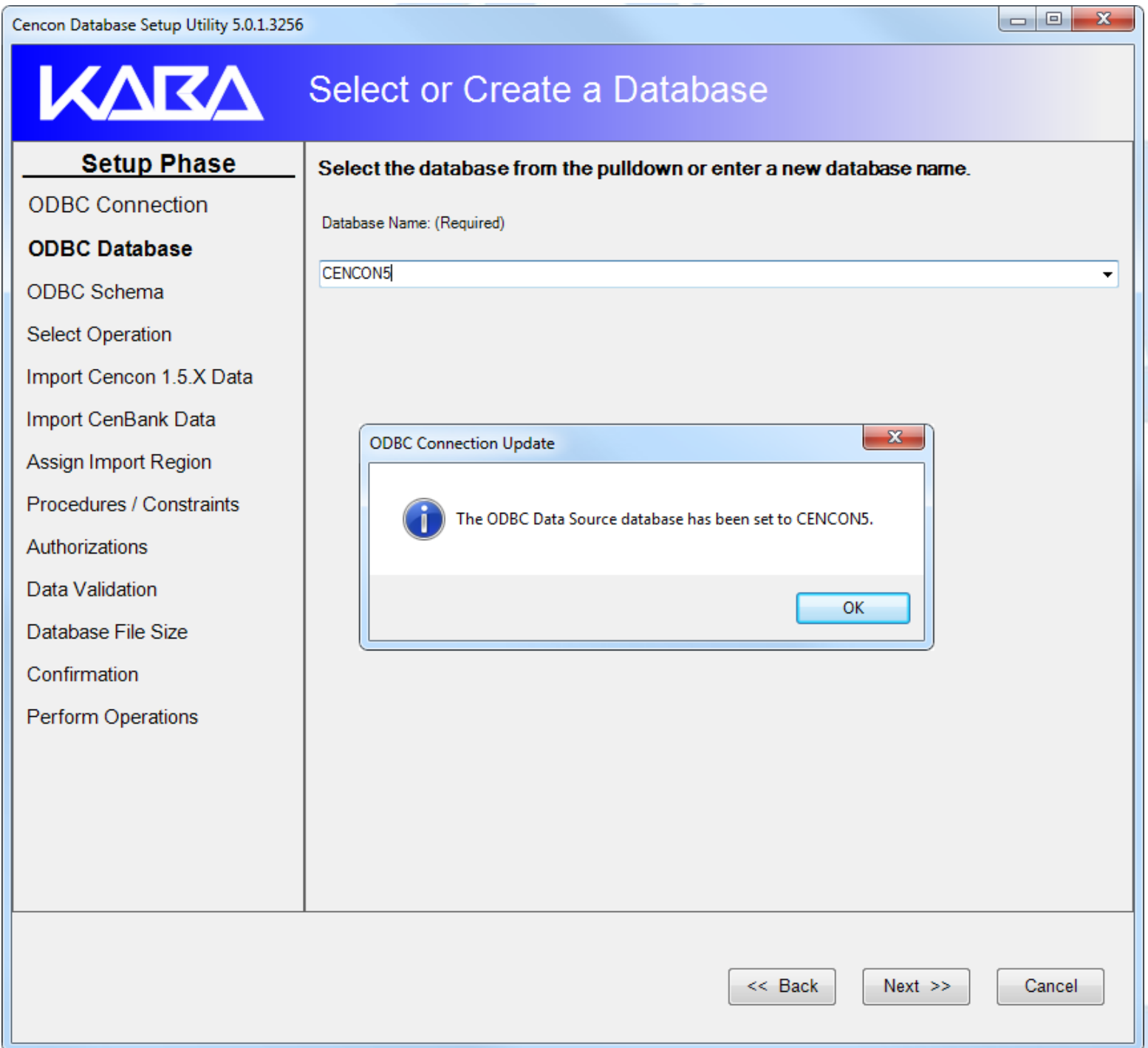


<< Back

Next >>

Cancel

You will also see a message indicating that the ODBC connection has been updated with the selected database name. Click **OK**.



5. The page to select or create a database schema will be displayed. Use the default database schema or type the database schema to be created. Click **Next**.

Note

It is recommended (but not required) to use the default database schema of DBO for Microsoft SQL Server.



Select or Create an ODBC Schema

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema**
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations

Please enter the schema to use for the Cencon database tables, views, procedures and indexes.

Use default schema

Schema Name: (Required) DBO

Default Schema Name: dbo

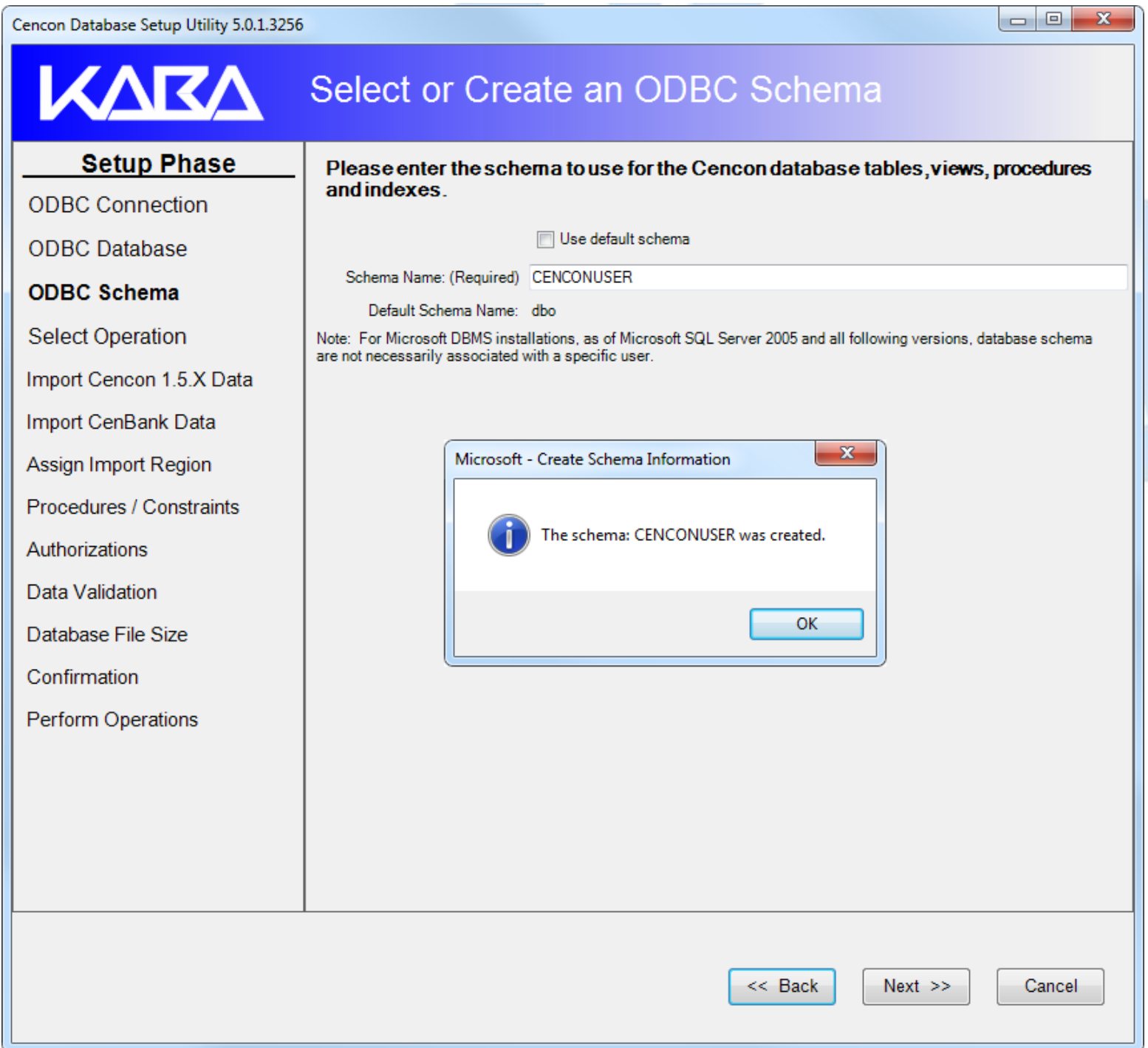
Note: For Microsoft DBMS installations, as of Microsoft SQL Server 2005 and all following versions, database schema are not necessarily associated with a specific user.

<< Back

Next >>

Cancel

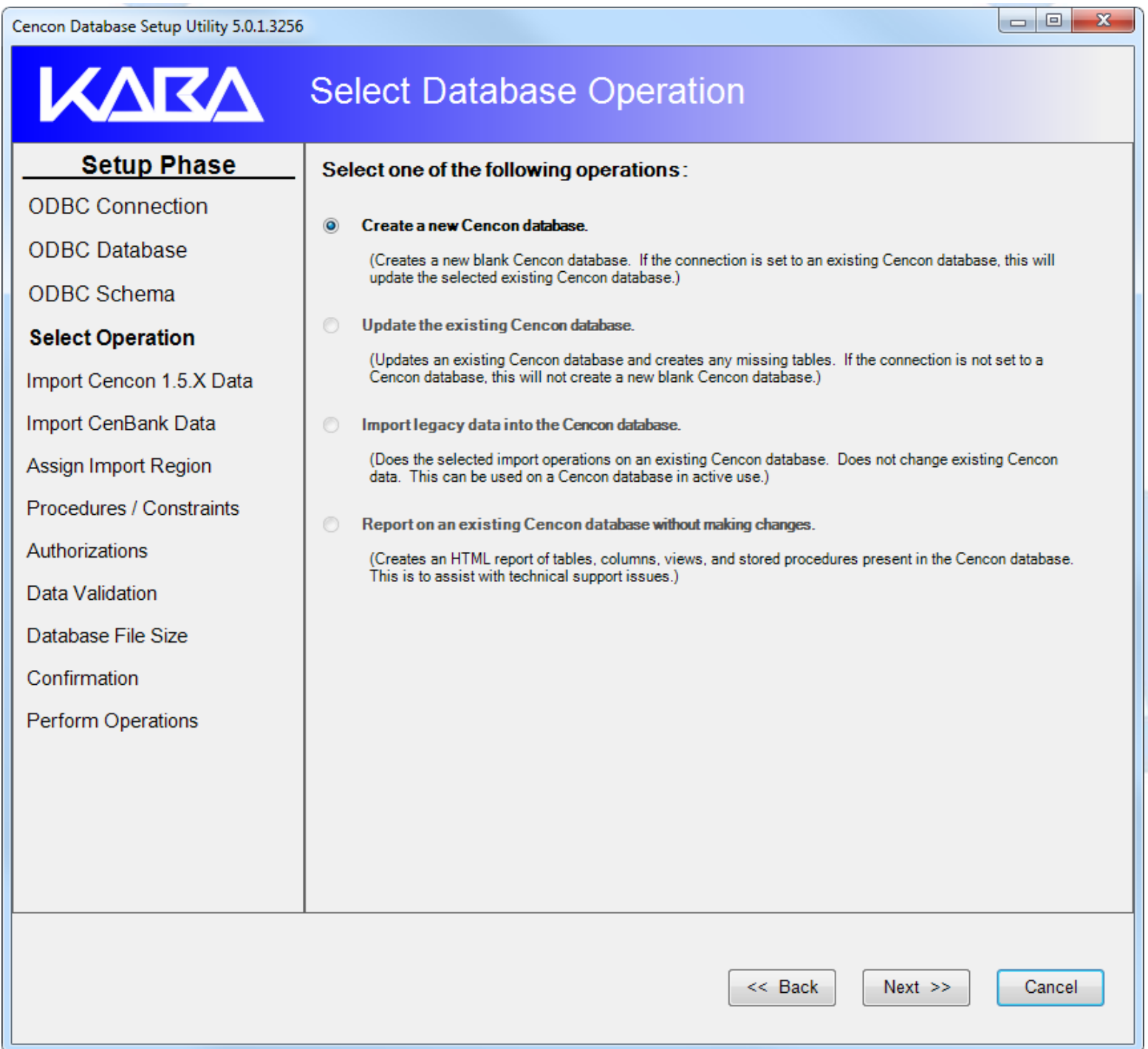
If you entered a new database schema name, a message indicating that the new database schema was created will be displayed. Click **OK**.



6. The available operations that can be performed by the Cencon Database Setup Utility are displayed. Select **Create a new Cencon database** and click **Next**.

Note

The Cencon Database Utility now checks the selected database and schema for an existing Cencon installation. If the selected Cencon database is empty, then **Create a new Cencon database** will be the only operation enabled. If the selected Cencon database has a previous version of Cencon tables present, then **Update the existing Cencon database** will be the only operation enabled. If the selected Cencon database is up to date with this version of the Cencon Database Setup Utility, then all of the operations except **Create a new Cencon database** will be permitted.



7. A summary of information and processes to be performed by the Cencon Database Setup Utility will be displayed. Click **Next** to start the process of setting up the Cencon database.



Review Selections Before Processing Starts

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation**
- Perform Operations

Operation Summary

SQL Database Management System Settings

Data Source Name	Engtestsv24gb TestData10
ODBC DSN User ID	MHG\Install
Database Administrator	Yes
Database Management System Name	Microsoft SQL Server
Database Management System Version	10.50.2550
Database Management System Compatibility Level	100
Database Catalog Compatibility Level	100
Database Server Name	ENGTESTSRV24GB
Database Name	CENCON5
Database Instance Name	MSSQLSERVER
Database Default Schema Name	dbo
Database Case Sensitive	No
Workstation Time and Zone	2013/10/15 14:19:25 : Eastern Daylight Time
Database Server Time and Zone	2013/10/15 14:19:25 : (UTC -4 Hours)
Workstation IP Address	10.108.6.103
Database Server IP Address	10.108.6.111
Database Specified Schema Name	DBO
Database Specified Catalog Name	CENCON5
Cencon Database Version Number	
Cencon Database Setup Utility Version Number	3256

<< Back

Next >>

Cancel

8. After clicking **Next** to start the database setup, the utility creates the tables, stored procedures, indexes, and constraints for Cencon.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations**



Validating Open Locks

Opening tables for validating data for open locks...
No open locks found missing matching log records.
Closing tables for validating data for open locks...
Opening lock log table for validating user dispatches...
Reading data for user dispatches...
No open locks found.
Checking log record discrepancies found...
Closing tables for validation of user dispatches...
Opening user table to read users for validating user data...
No users found.
Finished reading user data for validation.
Correcting user dispatch count...
Finished updating user data for dispatches.
Updating log table descriptive data...

Starting Update of Database Audit Event Type Names

Delete Empty Routes

Delete routes which are not associated with any locks.

Updating Cencon Database Configuration Data

Updating Cencon database version information...
Writing configuration data for Cencon...

Setup Complete!

Report Created On: 2013-10-15 14:10:13 (DST)
CenconDBSetupUtility Version 5.0.1.3256
Kaba Mas LLC

Close

Click the Save icon to save the HTML installation report for later review.

Click the **Close** button to close the Cencon Database Setup Utility.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**

The 'Save As' dialog box is open, showing the 'Desktop' location. The 'File name' field is empty and circled in red. The 'Save as type' dropdown is set to 'HTML files (*.htm)'. The 'Save' button is highlighted in blue. The 'Close' button in the main window is also circled in red.

Close

Cencon[®] 5 Getting Started Guide

Set Up New Database (Oracle)

The Cencon[®] 5 Database Utility option to create a database adds all databases, stored procedures, and constraints that Cencon[®] 5 will utilize.

Select Set Up Cencon Database to launch the CenconDBSetupUtility.exe.

NOTE: The CenconDBSetupUtility.exe can also be launched manually by browsing the install source (DVD, USB drive, or download) to the correct folder based on your operating system:

- DBSetupUtility\Windows_32bit\CenconDBSetupUtility.exe
- DBSetupUtility\Windows_64bit\CenconDBSetupUtility.exe

1. Click the button labeled **Set Up Cencon Database**.

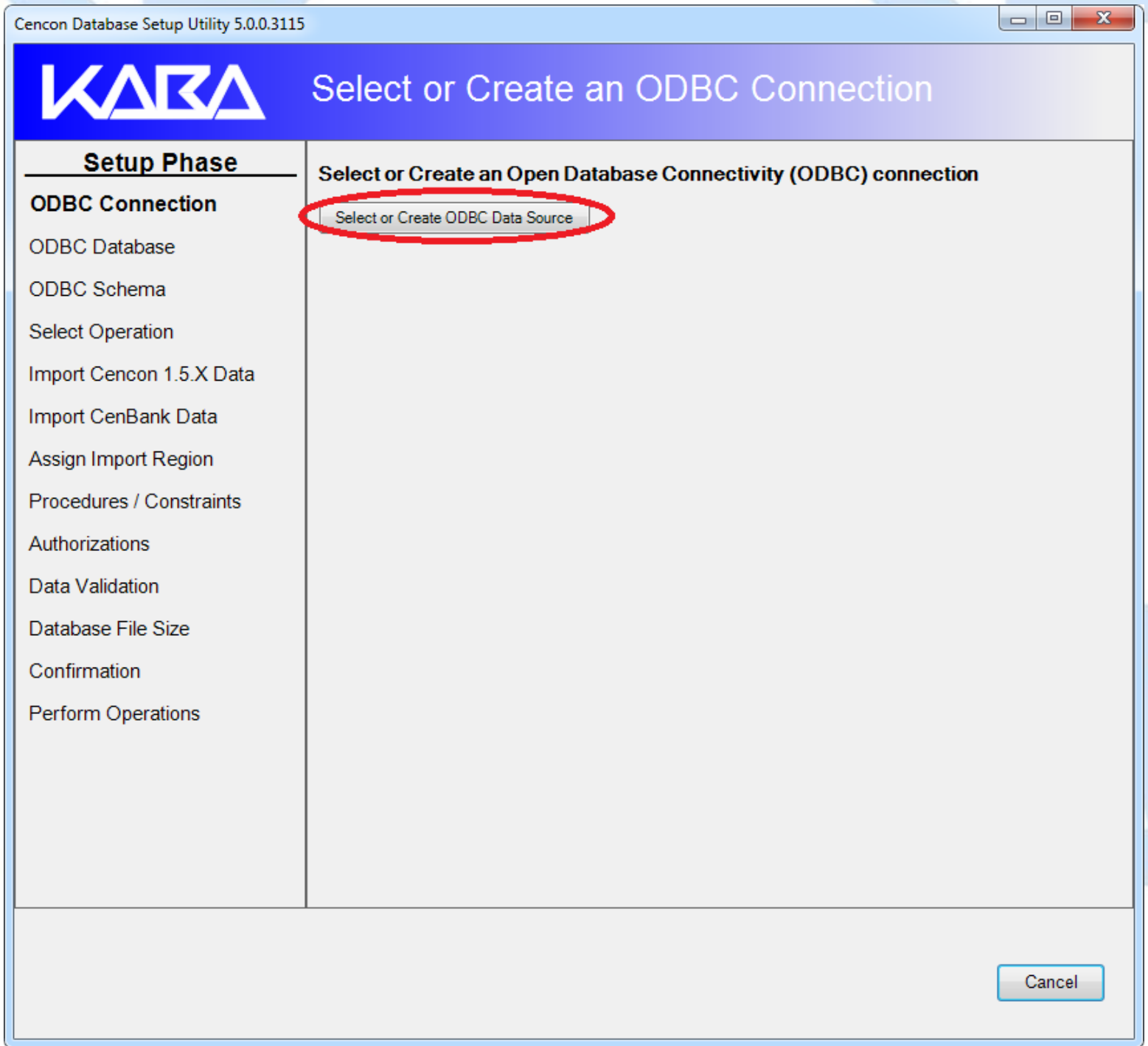


Note

You must have created an Oracle user with the appropriate permissions to host the Cencon database. See the documentation section: [Database User Permissions \(Oracle\)](#)

You must select the ODBC driver connection you configured with the Oracle user you created to host the Cencon database. See the documentation section: [ODBC Connection Creation \(Oracle\)](#)

2. Click the button labeled **Select or Create ODBC Data Source**.



The Select Data Source dialog will be displayed. Select the **Machine Data Source** tab of the Select Data Source dialog. Then select or create the ODBC connection to your database, and click **OK**.

Note

The ODBC connection should be configured as a Machine Data Source for multiple users logging onto the same system to

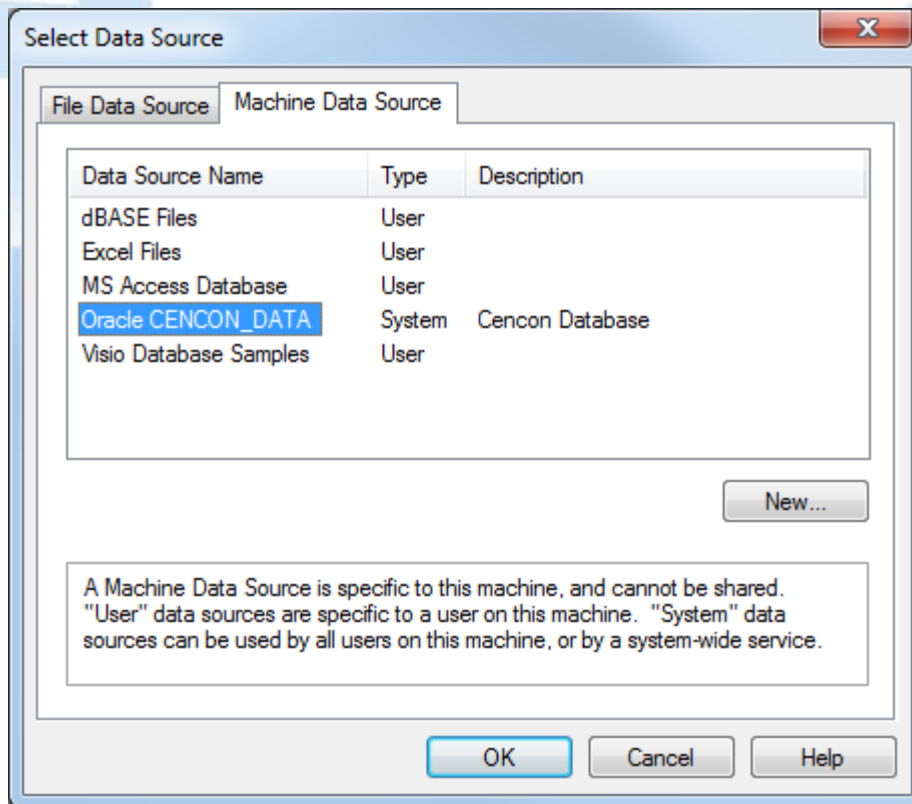
access it, or for the CenTran service to access it. A user with database administrative privileges must be used to create the database.

Note

The database name cannot start with numbers or symbols.

Note

The Default Schema Name indicated for the connection must match the Oracle database schema where you are hosting the Cencon database.



Note

When selecting an ODBC connection this may take a moment to load Data Source information.

3. After selecting the ODBC connection to your database, the information about the ODBC connection will be displayed. Review the information about your database connection then click the **Next** button.

Cencon Database Setup Utility 5.0.1.3257

KARA

Select or Create an ODBC Connection

Setup Phase	Select or Create an Open Database Connectivity (ODBC) connection
ODBC Connection	<input type="button" value="Select or Create ODBC Data Source"/>
Select Operation	Data Source Name: VMOracle TESTDATA10
Import Cencon 1.5.X Data	User ID: TESTDATA10
Import CenBank Data	Database Administrator: No
Assign Import Region	Database Management System Name: Oracle
Procedures / Constraints	Database Management System Version: 11.02.0020
Authorizations	Database Management System Compatibility Level:
Data Validation	Catalog Compatibility Level:
Database File Size	Server Name: localhost
Confirmation	Database Name: ORCL
Perform Operations	Instance Name: orcl
	Default Schema Name: TESTDATA10
	Case Sensitive: Yes
	Workstation Time and Zone: 2013/10/15 15:52:11 : Eastern Daylight Time
	DB Server Time and Zone: 2013/10/15 15:52:46 : (UTC -07 Hours)
	Workstation IP Address: 10.0.2.2
	Database Server IP Address: Unable to determine
	Database Setup Version:

Note

Database Setup Version will be blank if the target Cencon database is empty. If you are targeting a previous version of Cencon database to update it, this field will indicate the previous version.

4. The available operations that can be performed by the Cencon Database Setup Utility are displayed. Select **Create a new Cencon database** and click **Next**.

Note

The Cencon Database Utility now checks the selected database and schema for an existing Cencon installation. If the selected Cencon database is empty, then **Create a new Cencon database** will be the only operation enabled. If the selected Cencon database has a previous version of Cencon tables present, then **Update the existing Cencon database** will be the only operation enabled. If the selected Cencon database is up to date with this version of the Cencon Database Setup Utility, then all of the operations except **Create a new Cencon database** will be permitted.

Cencon Database Setup Utility 5.0.1.3256

KARA Select Database Operation

Setup Phase	Select one of the following operations :
ODBC Connection	<input checked="" type="radio"/> Create a new Cencon database. (Creates a new blank Cencon database. If the connection is set to an existing Cencon database, this will update the selected existing Cencon database.)
ODBC Database	<input type="radio"/> Update the existing Cencon database. (Updates an existing Cencon database and creates any missing tables. If the connection is not set to a Cencon database, this will not create a new blank Cencon database.)
ODBC Schema	<input type="radio"/> Import legacy data into the Cencon database. (Does the selected import operations on an existing Cencon database. Does not change existing Cencon data. This can be used on a Cencon database in active use.)
Select Operation	<input type="radio"/> Report on an existing Cencon database without making changes. (Creates an HTML report of tables, columns, views, and stored procedures present in the Cencon database. This is to assist with technical support issues.)
Import Cencon 1.5.X Data	
Import CenBank Data	
Assign Import Region	
Procedures / Constraints	
Authorizations	
Data Validation	
Database File Size	
Confirmation	
Perform Operations	

<< Back Next >> Cancel

5. A summary of information and processes to be performed by the Cencon Database Setup Utility will be displayed. Click **Next** to start the process of setting up the Cencon database.



Review Selections Before Processing Starts

Setup Phase

- ODBC Connection
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation**
- Perform Operations

Operation Summary

Oracle Database Management System Settings

Data Source Name	VMOracle TESTDATA10
ODBC DSN User ID	TESTDATA10
Database Administrator	No
Cencon Application Userid	
Database Management System Name	Oracle
Database Management System Version	11.02.0020
Database Management System Compatibility Level	
Database Catalog Compatibility Level	
Database Server Name	localhost
Database Name	ORCL
Database Instance Name	orcl
Database Default Schema Name	TESTDATA10
Database Case Sensitive	Yes
Workstation Time and Zone	2013/10/15 15:52:11 : Eastern Daylight Time
Database Server Time and Zone	2013/10/15 15:52:46 : (UTC -07 Hours)
Workstation IP Address	10.0.2.2
Database Server IP Address	Unable to determine
Database Specified Schema Name	
Database Instance Name	orcl
Cencon Database Version Number	
Cencon Database Setup Utility Version Number	3257

6. After clicking **Next** to start the database setup, the utility creates the tables, stored procedures, indexes, and constraints for Cencon.

This creates the databases, stored procedures, indexes, and constraints for Cencon. This may take several minutes depending on the performance of your database.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**



Updating log table and log history table union view...
Updating route lock joined with lock table view...
Updating route and route lock and lock table join view...
Updating collection lock joined with lock table view...
Updating collection and collection lock and lock table join view...
Updating user bank branch view...
Updating audit union with audit archive table view...
Updating authorization operation name join authorization definition view...
Updating user combo issued and log dispatch view...

Starting Update of Defined Database Indexes

Creating user table index for user ID and bank branch...
Creating user bank branch view index for user ID and bank branch...

Skipping Import of Legacy Cencon Data**Skipping Import of Legacy CenBank Data From Directories****Skipping Validation of Cencon Data****Updating Cencon Database Configuration Data**

Updating Cencon database version information...
Writing configuration data for Cencon...

Skipping Update of Database Audit Event Type Names**Delete Empty Routes**

Delete routes which are not associated with any locks.

Setup Complete!

Report Created On: 2013-05-06 16:05:29 (DST)
CenconDBSetupUtility Version 5.0.0.3115
Kaba Mas LLC

[Close](#)

7. Click the **Save** icon to save the HTML installation report for later review.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**

Save As

Desktop

Organize New folder

Favorites: Desktop, Downloads, Recent Places

Libraries: Documents, Music, Pictures, Subversion, Videos

Computer: Local Disk (C:)

System Folders: Libraries, Vic Gettler, Computer, Network

File folder: CenconCDImage3097

File name:

Save as type: HTML files (*.htm)

Buttons: Save, Cancel

Close

8. Click **Close** to close the Cencon[®] Database Setup Utility.

Cencon[®] 5 Getting Started Guide

Update Cencon Database

The Cencon[®] Database Setup Utility option to update a database adds any deleted tables, rebuilds stored procedures, and rebuilds constraints that Cencon[®] software and the CenTran service will utilize.

The Cencon[®] database structure is designed to be backwards compatible with earlier versions of Cencon[®] and CenTran. Updating a Cencon[®] database adds new tables, columns and stored procedures required for a new version of the software, but keeps compatibility with older versions. This allows you to update the Cencon[®] database first, and then update your Cencon[®] and CenTran installations as operations permit.

Note<

It is recommended to update all of your Cencon[®] and CenTran installations to the current level after updating your database to ensure proper operation of the Cencon system.

Caution<

The Cencon[®] Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

Select Set Up Cencon Database to launch the CenconDBSetupUtility.exe.

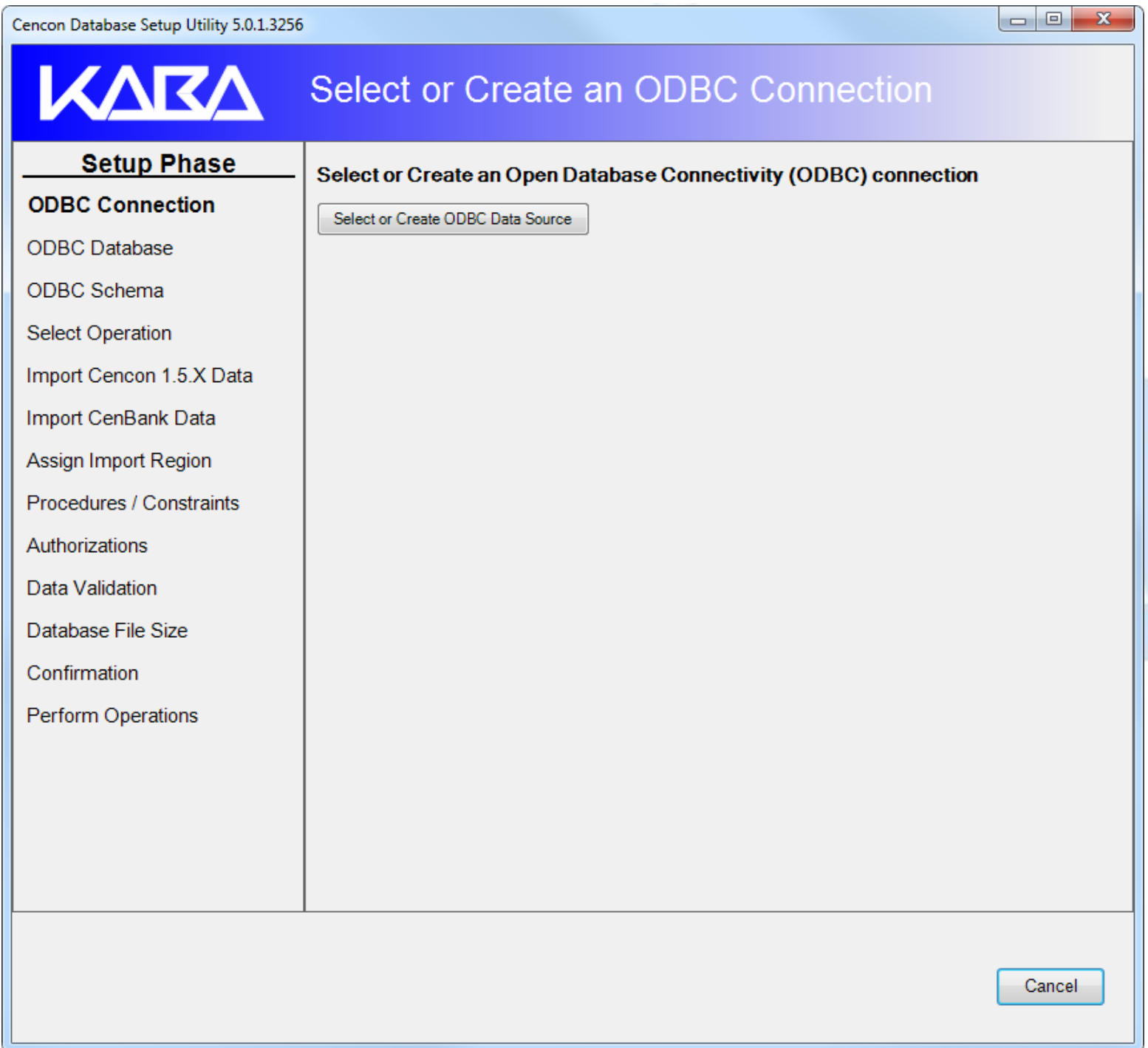
NOTE: The CenconDBSetupUtility.exe can also be launched manually by browsing the install source (DVD, USB drive, or download) to the correct folder based on your operating system:

- DBSetupUtility\Windows_32bit\CenconDBSetupUtility.exe
- DBSetupUtility\Windows_64bit\CenconDBSetupUtility.exe

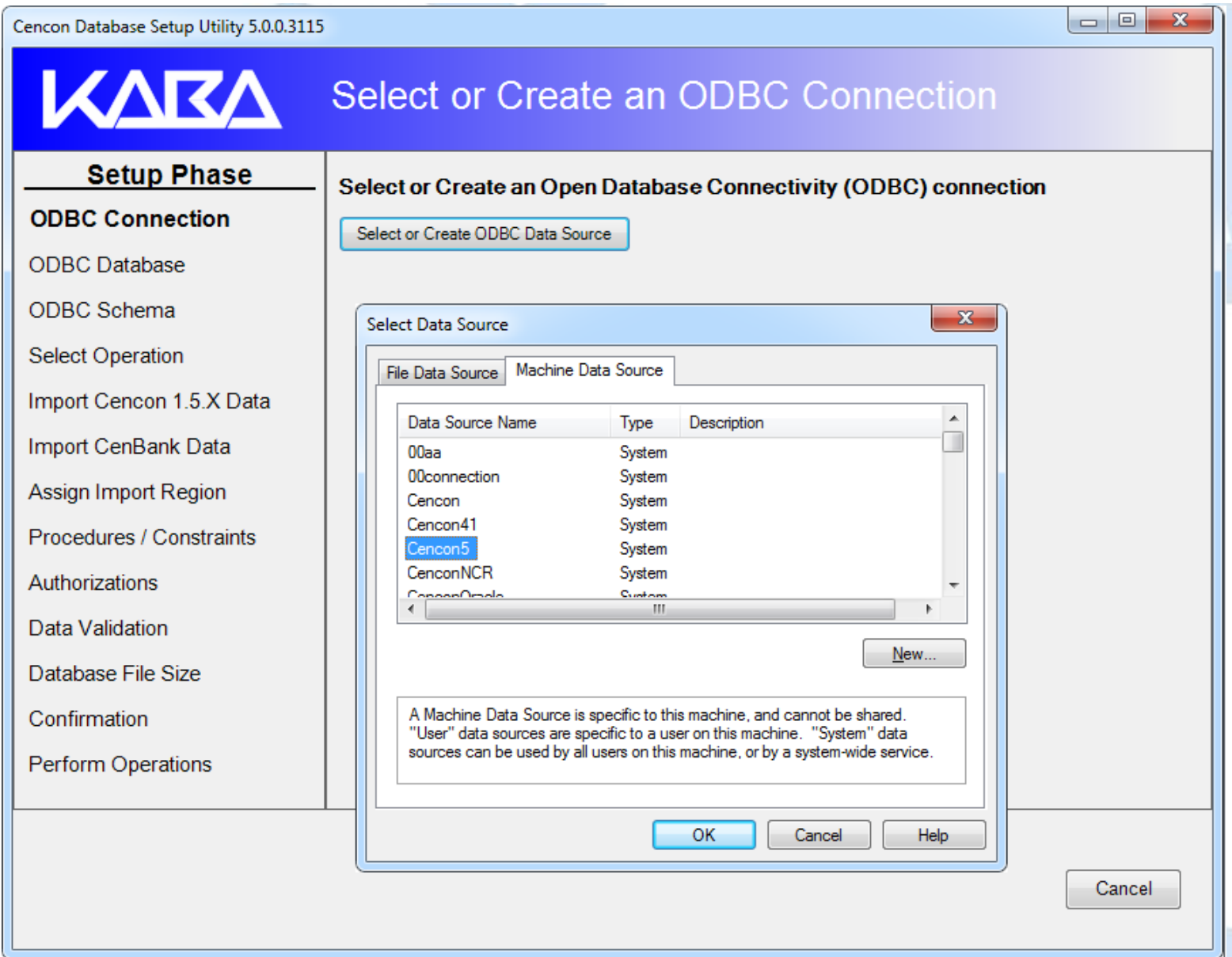
1. Click the button labeled **Set Up Cencon Database**.



The Cencon Database Setup Utility will display as shown below:



2. Click the button labeled **Select or Create ODBC Data Source**. The Select Data Source dialog will be displayed. Select the **Machine Data Source** tab of the Select Data Source dialog. Then select or create the ODBC connection to your database, and click **OK**.



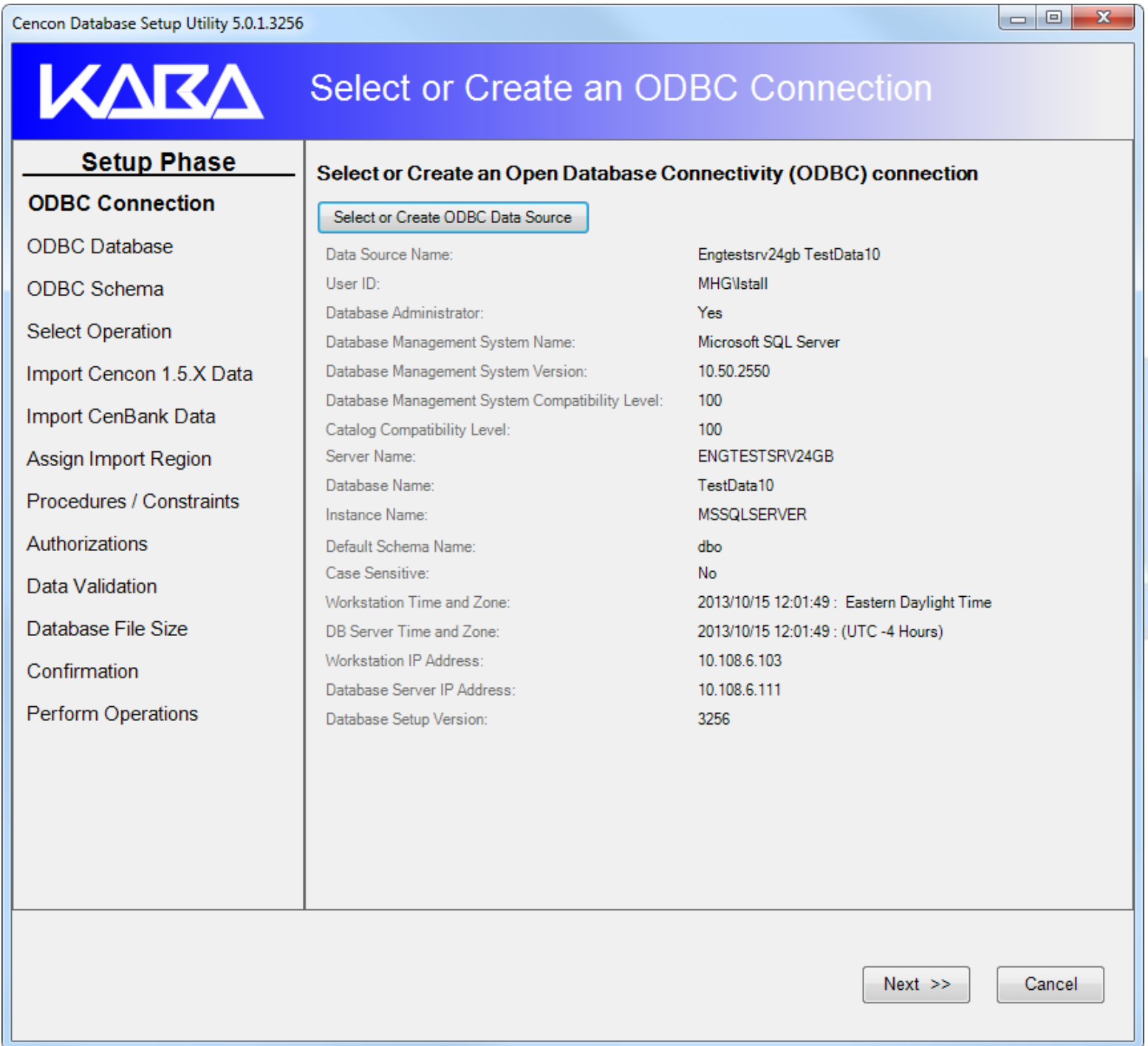
Note

When selecting an ODBC connection it may take a moment to load Data Source information.

Caution

The Cencon® Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

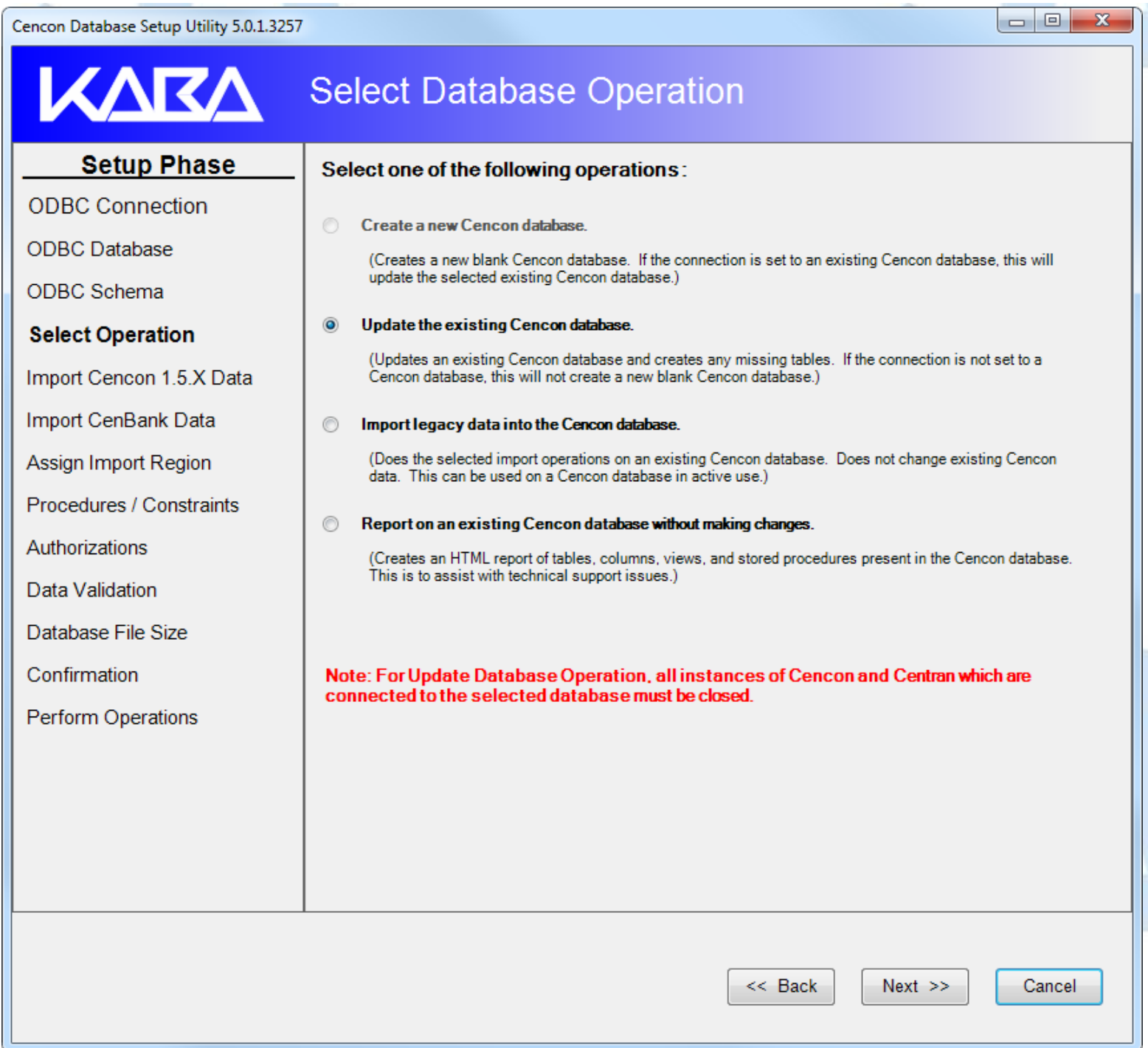
3. After selecting the ODBC connection to your database, the information about the ODBC connection will be displayed. Review the information about your database connection then click the **Next** button.



4. The available operations that can be performed by the Cencon Database Setup Utility are displayed. Select **Update the existing Cencon database** and click **Next**.

Note

The Cencon Database Utility now checks the selected database and schema for an existing Cencon installation. If the selected Cencon database is empty, then **Create a new Cencon database** will be the only operation enabled. If the selected Cencon database has a previous version of Cencon tables present, then **Update the existing Cencon database** will be the only operation enabled. If the selected Cencon database is up to date with this version of the Cencon Database Setup Utility, then all of the operations except **Create a new Cencon database** will be permitted.



7. The option to update procedures, constraints, indexes, and table column widths should be displayed. The default is to do the update of these items. These items are described as follows:

SQL stored procedures

An SQL stored procedures are named blocks of SQL code associated with a database. Cencon and CenTran use these SQL stored procedures for a variety of database operations.

Constraints

Constraints enforce rules about the data in the Cencon database. These rules are used to ensure that the data is valid.

Indexes

Indexes are used to allow the rapid lookup of data in the Cencon database. Indexes can sometimes become corrupted. The Cencon Database Setup Utility will delete and recreate the indexes for the Cencon database to ensure that they are correct.

Table columns

The Cencon database stores data in tables composed of columns. Older versions of the software used smaller column sizes. The newer versions of the software uses larger column sizes. If a table column needs to be resized, or if a table is missing columns, then the Cencon Database Setup Utility will correct it as needed.

Check this option as desired and click **Next**.

Cencon Database Setup Utility 5.0.1.3257

KARA Select Database Dictionary Update

Setup Phase	
ODBC Connection	
ODBC Database	
ODBC Schema	
Select Operation	
Import Cencon 1.5.X Data	
Import CenBank Data	
Assign Import Region	
Procedures / Constraints	
Authorizations	
Data Validation	
Database File Size	
Confirmation	
Perform Operations	

Do you want to update the SQL stored procedures, table constraints, table triggers, table indexes, and table column widths on the selected database?

These database configuration items are required by the Cencon application.

If these SQL stored procedures, table constraints, table triggers, table indexes, and table column widths have already been set up, you can choose not to attempt to set them up again.

Update SQL Stored Procedures, Table Constraints, Table Triggers, Table Indexes, and Table Column Widths

Note: For Update Database and the Maintain Database Operations, all instances of Cencon and Centran which are connected to the selected database must be closed.

<< Back Next >> Cancel

8. The options for resetting authorization roles and setting audit event names should be displayed. The default is to do the update of these items. These items are described as follows:

Authorization Role Definitions



The authorization role definitions are a set of tables that is used to store the the authorization information for the Cencon and CenTran software. Each user is assigned to a role.

The Special Supervisor role is a special role that always has access to all operations under the Cencon and CenTran software. The Special Supervisor role also has the ability to edit the authorizations set up for other user roles.

All of the other roles assigned to Cencon users are dependent on the authorizations described in the authorization role definition tables to determine what operations they are allowed to do.

Resetting the contents of the authorization role definition tables changes what operations the user roles can do back to factory default.

Audit Event Type Names

The audit tables contains records that describe events that have occurred within the Cencon / Centran software and hardware. The type of event is determined by number codes in the records. For easier third party access to querying against these tables, there is also a text field with each record with an audit event type name set. This allows querying against the text description of a particular type of event.

Updating the audit event type names ensures that this text field in the audit tables has been correctly populated with the appropriate audit event type name.

Check these options as desired and click **Next**.

Warning

To validate the data check the boxes. This process will take time depending on the amount of data being processed. Cencon[®] and CenTran[®] software cannot be used while the Cencon[®] Database Setup Utility is running these operations.

Warning

This feature will delete any roles that have been created by the end user and will reset the table to factory settings.

Note

Check the box in the event the defaults have been modified from the defaults.

Cencon Database Setup Utility 5.0.1.3257

KARA Select Database Authorizations Tables Update

Setup Phase	
ODBC Connection	
ODBC Database	
ODBC Schema	
Select Operation	
Import Cencon 1.5.X Data	
Import CenBank Data	
Assign Import Region	
Procedures / Constraints	
Authorizations	
Data Validation	
Database File Size	
Confirmation	
Perform Operations	

Do you want any previous user roles for authorizations to be reset?

If these authorizations do not exist, they will automatically be set up.

Reset / Overwrite Existing Authorization Role Definitions

Do you need to update the audit event type names in your database?

This will check that the descriptive event type name is set correctly on each audit based on the type of event.

Update the Audit Event Type Names in the Audit Event table and the Activity Log Tables

Note: For Update Database and the Maintain Database Operations, all instances of Cencon and Centran which are connected to the selected database must be closed.

<< Back Next >> Cancel

9. The options for validating and correcting Cencon lock and user data should be displayed. The default is to do the validation operations. These validation operations are described as follows:

Valiate and correct errors with the Cencon locks

This option scans the Cencon locks and corrects issues with incorrect or missing dispatch log records.

Valiate user dispatch counts

This option scans users and ensures that the dispatch count for each user is correct. Note - In current versions of Cencon and CenTran, this is automatically checked for correctness when a user is dispatched.

Check user authorization roles

This options checks the users to ensure that the assigned user roles for authorization is valid.

Check collections, customer IDs, and regions

This option checks the collections, customer IDs, and regions to ensure that this associated descriptive data is set up correctly in relation to locks and users.

Check these options as desired and click **Next**.

Cencon Database Setup Utility 5.0.1.3257

KARA Select Data Validation Processes

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation**
- Database File Size
- Confirmation
- Perform Operations

Do you need to validate or correct errors with the Cencon locks?

This will scan the locks in the Cencon database and correct any errors that are found. If you are importing data, it is recommended that you also check for errors in the database afterwards.

Validate and Do Corrections On Data For Open Locks (Long Operation)

Do you need to validate the user dispatch counts?

This will scan the users and correct how many locks each user is dispatched to. If you are importing data, it is recommended that you also check for errors in the database afterwards.

Validate and Do Corrections on Data For Dispatched Users (Long Operation)

Do you need to check the user authorization roles?

This will scan the users and correct each user authorization role if it is not set correctly. This validation is recommended if you are upgrading from a previous version of Cencon database..

Validate and Do Corrections On User Authorization Roles

Do you need to check the Collections, Customer IDs and Regions?

This will correct any errors that are found. If you are importing data, it is recommended that you also check for errors in the database afterwards.

Validate and Do Corrections on Collections, Customer IDs, and Regions

Note: For Update Database and the Maintain Database Operations, all instances of Cencon and Centran which are connected to the selected database must be closed.

<< Back Next >> Cancel

10. The options for increasing the Cencon database file sizes should be displayed.

This option is only available to Microsoft SQL Server. It is not applicable to Oracle. Microsoft SQL Server will automatically increase the file sizes for a database by a small amount (default 10%) as needed. Each time this increase in file sizes occurs, performance drops dramatically because of the data copying required between files. To improve performance, it is possible to increase the file sizes before doing a large number of operations such as an update to the database structure.

Administrative access to resize the database file sizes is required for this operation. Depending on your authorization and configuration of Microsoft SQL Server, this option might not have the correct access to complete the operation.

Select if you want to resize the database files and if so, enter your desired larger files sizes. Click **Next**.

Cencon Database Setup Utility 5.0.1.3257

KARA Review and Update Database File Size

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size**
- Confirmation
- Perform Operations

Do you need to resize your database files prior to doing database operations ?

If your database files are too small for the operations, it will slow the operations down while resizing the database with each operation. Increasing your database file size first will improve performance.

Increase Database File Sizes

	Database Name/Catalog	File Size (MB)	Space Used (MR)	Free Space (MB)	New File Size (MR)
▶	TestData10	426	5	420	426
	TestData10_log	8236	7596	639	8236

Note: For Update Database and the Maintain Database Operations, all instances of Cencon and Centran which are connected to the selected database must be closed.

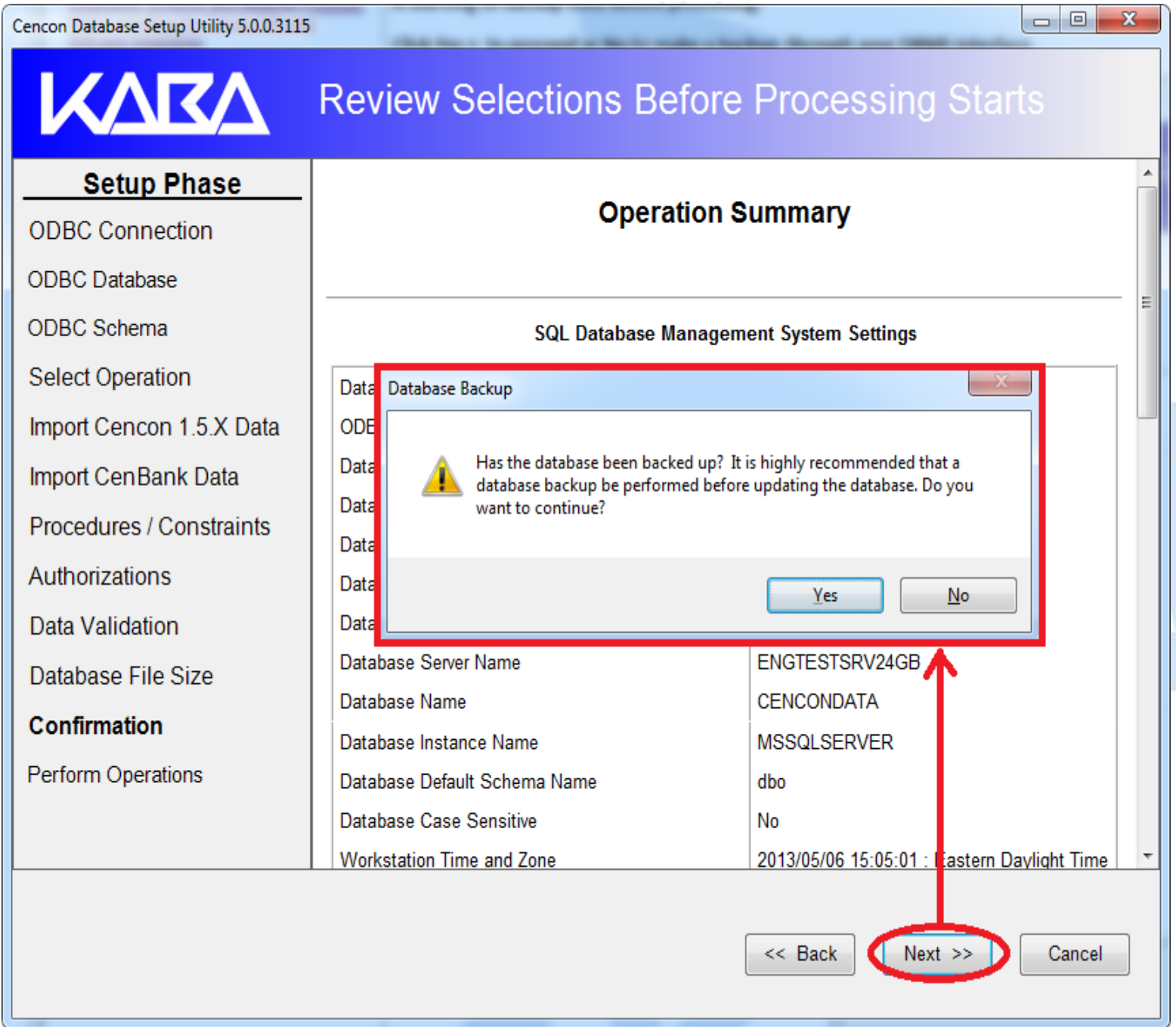
<< Back
Next >>
Cancel

11. A summary of information and processes to be performed by the Cencon Database Setup Utility will be displayed. Click **Next** to start the process of updating the Cencon database.

Warning

The Cencon Database should always be backed up regularly. Review DBMS website for back up methodology.





12. After clicking **Next** to start the database update, the utility will do the selected updates and validation checks of the Cencon database.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations**



Validating Open Locks

Opening tables for validating data for open locks...
No open locks found missing matching log records.
Closing tables for validating data for open locks...
Opening lock log table for validating user dispatches...
Reading data for user dispatches...
No open locks found.
Checking log record discrepancies found...
Closing tables for validation of user dispatches...
Opening user table to read users for validating user data...
No users found.
Finished reading user data for validation.
Correcting user dispatch count...
Finished updating user data for dispatches.
Updating log table descriptive data...

Starting Update of Database Audit Event Type Names

Delete Empty Routes

Delete routes which are not associated with any locks.

Updating Cencon Database Configuration Data

Updating Cencon database version information...
Writing configuration data for Cencon...

Setup Complete!

Report Created On: 2013-10-15 14:10:13 (DST)
CenconDBSetupUtility Version 5.0.1.3256
Kaba Mas LLC

Close

Click the Save icon to save the HTML installation report for later review.

Click the **Close** button to close the Cencon Database Setup Utility.





Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**

The 'Save As' dialog box is open, showing the 'Desktop' location. The 'File name' field is empty and circled in red. The 'Save as type' dropdown is set to 'HTML files (*.htm)'. The 'Save' button is highlighted in blue. The 'Close' button in the main window is also circled in red.

Close

Cencon® 5 Getting Started Guide

Import Legacy Data Into Cencon Database

The Cencon® Database Setup Utility option to import legacy data into a Cencon® database can import two types of data:

- Legacy data from Cencon 1.5.2 files for FLM and Route mode Cencon locks.
- Legacy data from CenBank 4 files for Bank mode Cencon locks.

Select Set Up Cencon Database to launch the CenconDBSetupUtility.exe.

NOTE: The CenconDBSetupUtility.exe can also be launched manually by browsing the install source (DVD, USB drive, or download) to the correct folder based on your operating system:

- DBSetupUtility\Windows_32bit\CenconDBSetupUtility.exe
- DBSetupUtility\Windows_64bit\CenconDBSetupUtility.exe

1. Click the button labeled **Set Up Cencon Database**.



The Cencon Database Setup Utility will display as shown below:



Select or Create an ODBC Connection

Setup Phase**ODBC Connection**

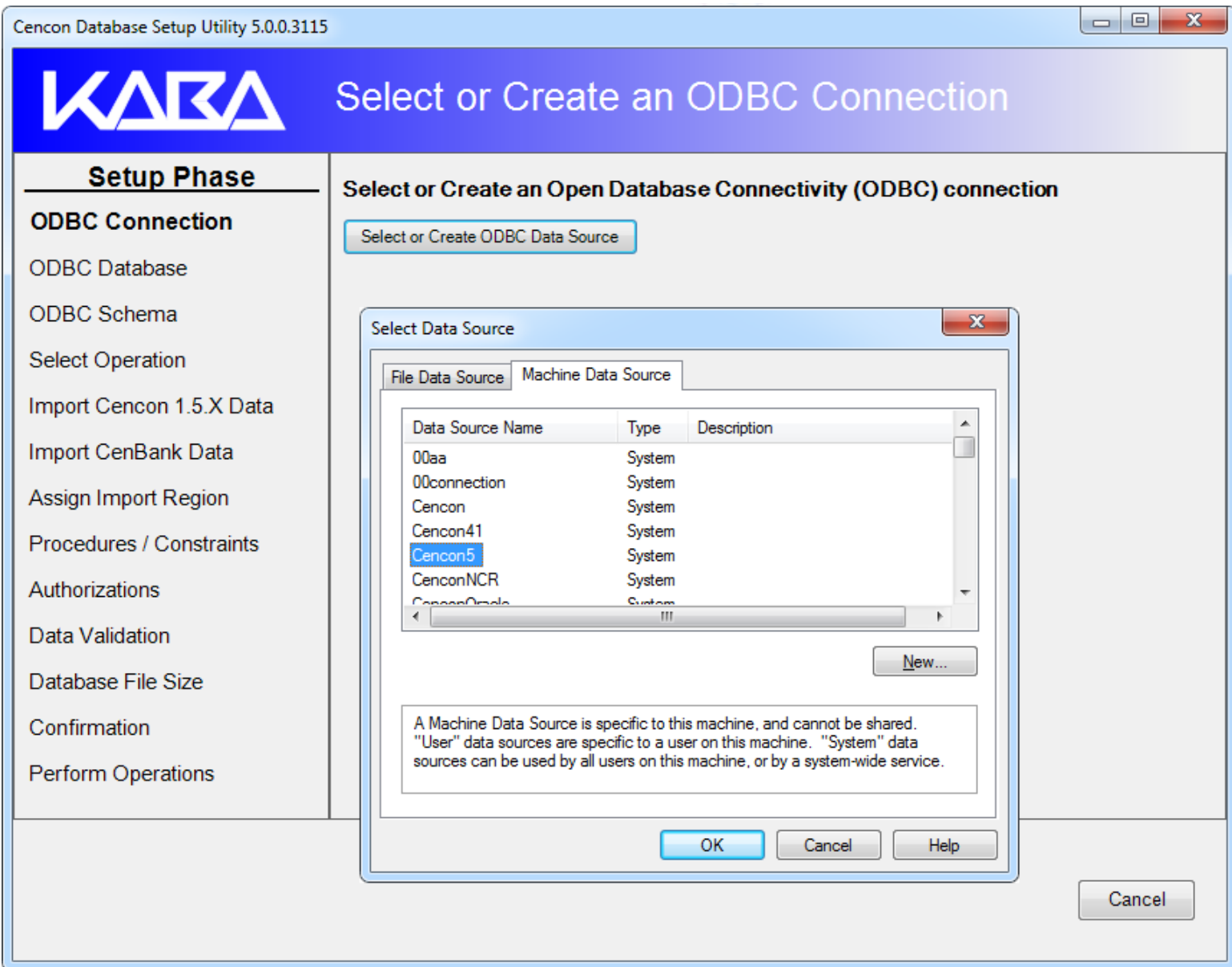
ODBC Database
ODBC Schema
Select Operation
Import Cencon 1.5.X Data
Import CenBank Data
Assign Import Region
Procedures / Constraints
Authorizations
Data Validation
Database File Size
Confirmation
Perform Operations

Select or Create an Open Database Connectivity (ODBC) connection

Select or Create ODBC Data Source

Cancel

2. Click the button labeled **Select or Create ODBC Data Source**. The Select Data Source dialog will be displayed. Select the **Machine Data Source** tab of the Select Data Source dialog. Then select or create the ODBC connection to your database, and click **OK**.



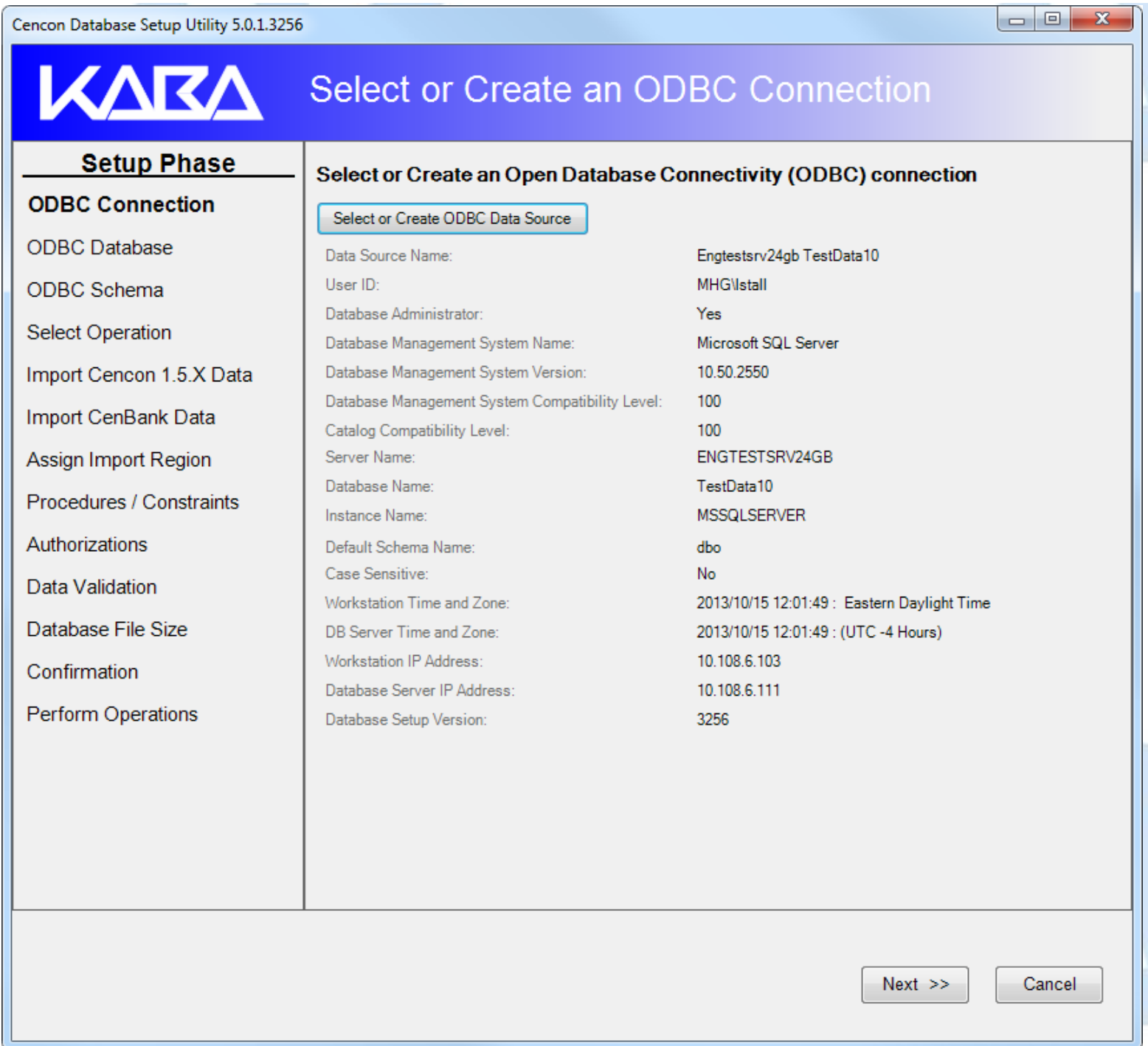
Note

When selecting an ODBC connection it may take a moment to load Data Source information.

Caution

The Cencon® Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

3. After selecting the ODBC connection to your database, the information about the ODBC connection will be displayed. Review the information about your database connection then click the **Next** button.



4. The available operations that can be performed by the Cencon Database Setup Utility are displayed. Select **Import legacy data into the Cencon database** and click **Next**.

Note

The Cencon Database Utility now checks the selected database and schema for an existing Cencon installation. If the selected Cencon database is empty, then **Create a new Cencon database** will be the only operation enabled. If the selected Cencon database has a previous version of Cencon tables present, then **Update the existing Cencon database** will be the only operation enabled. If the selected Cencon database is up to date with this version of the Cencon Database Setup Utility, then all of the operations except **Create a new Cencon database** will be permitted.



Select Database Operation

Setup Phase

ODBC Connection

ODBC Database

ODBC Schema

Select Operation

Import Cencon 1.5.X Data

Import CenBank Data

Assign Import Region

Procedures / Constraints

Authorizations

Data Validation

Database File Size

Confirmation

Perform Operations

Select one of the following operations :

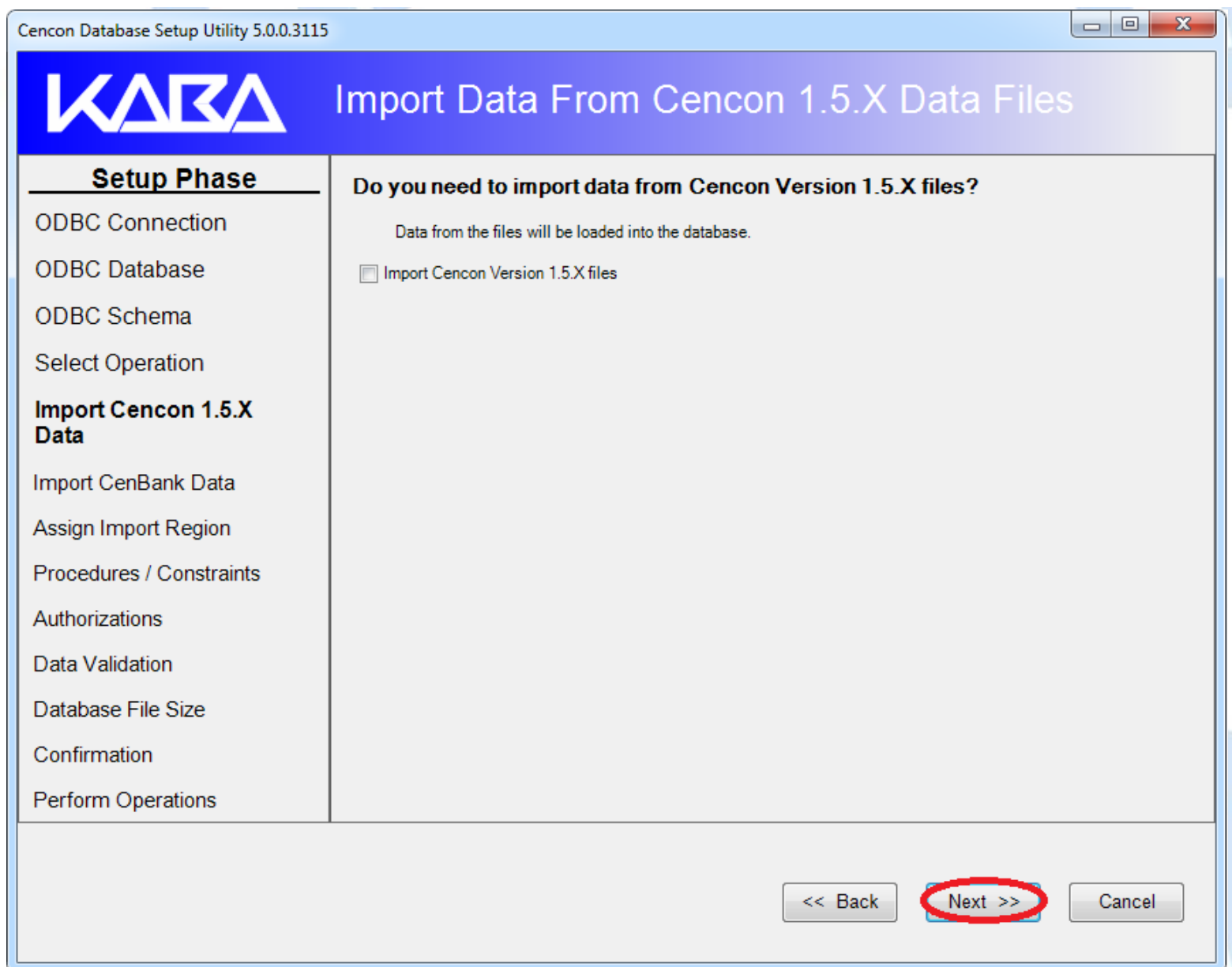
- Create a new Cencon database.**
(Creates a new blank Cencon database. If the connection is set to an existing Cencon database, this will update the selected existing Cencon database.)
- Update the existing Cencon database.**
(Updates an existing Cencon database and creates any missing tables. If the connection is not set to a Cencon database, this will not create a new blank Cencon database.)
- Import legacy data into the Cencon database.**
(Does the selected import operations on an existing Cencon database. Does not change existing Cencon data. This can be used on a Cencon database in active use.)
- Report on an existing Cencon database without making changes.**
(Creates an HTML report of tables, columns, views, and stored procedures present in the Cencon database. This is to assist with technical support issues.)

<< Back

Next >>

Cancel

5. The option to import Cencon Version 1.5.X files should now be displayed. If you need to import Cencon Version 1.5.X files, click in the checkbox. Otherwise, click **Next**, and continue with step 7 below.



6. If you selected the option to import Cencon Version 1.5.X files, you will see the fields and settings for how you want to import the files. These settings are the following:

Location of Cencon Version 1.5.X files

This is the directory location of the Cencon 1.5.X installation that you are importing data from.

Location of Cencon Version 1.5.X lock backup file

This is the directory location of the lock backup file associated with the Cencon 1.5.X installation you are importing data from. This may be in the same directory as the Cencon 1.5.X installation. This may also be in a subdirectory labeled backup.

Legacy database files

Cencon 1.5.X stores its data in several files, depending on the type of information. Cencon 2.0 and higher stores its data in a relational database, hosted by a database management system (DBMS). You can choose what files you want to import from Cencon 1.5.X to the Cencon database. Normally you will want to import all of the files.

Once you have entered how you want to import Cencon Version 1.5.X files, click **Next**.

Warning

The installation of Cencon 1.5.X that you are importing data from must have used the exact same security information as the Cencon database you are importing into.

The PCIO number for your Cencon KeyBox must exactly match the PCIO number from the PCI or ISA card used by the Cencon 1.5.X installation.

When setting up Cencon, you are required to enter a 4 digit company number that is yours to keep secret. This 4 digit company number is one of the pieces of security information used with the Cencon lock. The 4 digit company number from the Cencon 1.5.X installation you are importing must exactly match the 4 digit company number set for the destination Cencon database.

Cencon Database Setup Utility 5.0.0.3115

KARA Import Data From Cencon 1.5.X Data Files

Setup Phase	Do you need to import data from Cencon Version 1.5.X files?									
ODBC Connection	<p>Data from the files will be loaded into the database.</p> <p><input checked="" type="checkbox"/> Import Cencon Version 1.5.X files</p> <p>Both import file paths are required..</p> <p>Location of Cencon Version 1.5.X files: (Required)</p> <p><input type="text" value="C:\152 cencon files"/> <input data-bbox="1425 978 1539 1010" type="button" value="Browse..."/></p> <p>Location of the Cencon Version 1.5.X lock backup file: (Required)</p> <p><input type="text" value="C:\152 cencon files\Backup"/> <input data-bbox="1425 1087 1539 1119" type="button" value="Browse..."/></p> <p>Select the legacy database files that you want to import. It is recommended that you import all the files.</p> <table border="0"><tr><td><input checked="" type="checkbox"/> Locks File</td><td><input checked="" type="checkbox"/> Users File</td><td><input checked="" type="checkbox"/> Routes File</td></tr><tr><td><input checked="" type="checkbox"/> Locks Backup Data File</td><td><input checked="" type="checkbox"/> Lock Dispatch Log File</td><td><input checked="" type="checkbox"/> Activity Log File</td></tr><tr><td colspan="3"><input checked="" type="checkbox"/> Update Locks With Data From Lock Dispatch Log History (Long Operation)</td></tr></table>	<input checked="" type="checkbox"/> Locks File	<input checked="" type="checkbox"/> Users File	<input checked="" type="checkbox"/> Routes File	<input checked="" type="checkbox"/> Locks Backup Data File	<input checked="" type="checkbox"/> Lock Dispatch Log File	<input checked="" type="checkbox"/> Activity Log File	<input checked="" type="checkbox"/> Update Locks With Data From Lock Dispatch Log History (Long Operation)		
<input checked="" type="checkbox"/> Locks File		<input checked="" type="checkbox"/> Users File	<input checked="" type="checkbox"/> Routes File							
<input checked="" type="checkbox"/> Locks Backup Data File		<input checked="" type="checkbox"/> Lock Dispatch Log File	<input checked="" type="checkbox"/> Activity Log File							
<input checked="" type="checkbox"/> Update Locks With Data From Lock Dispatch Log History (Long Operation)										
ODBC Database										
ODBC Schema										
Select Operation										
Import Cencon 1.5.X Data										
Import CenBank Data										
Procedures / Constraints										
Authorizations										
Data Validation										
Database File Size										
Confirmation										
Perform Operations										

7. The option to import CenBank 4 files should now be displayed. If you need to import CenBank 4 files, select either to import from a single CenBank 4 directory or select to import from multiple CenBank 4 directories. Otherwise, if you do not need to import CenBank 4 files, click **Next** and continue with step 9 below.

Cencon Database Setup Utility 5.0.0.3115

KARA Import Data From CenBank Data Files

Setup Phase	
ODBC Connection	
ODBC Database	
ODBC Schema	
Select Operation	
Import Cencon 1.5.X Data	
Import CenBank Data	<p>Do you need to import CenBank data files?</p> <p>This will set up the data from the selected CenBank installation (or multiple installations) in the Cencon database. You will need to select the location of the files to import from.</p> <p><input checked="" type="radio"/> Do not import CenBank data.</p> <p><input type="radio"/> Import files from a single CenBank Installation from the selected directory.</p> <p><input type="radio"/> Import files from multiple CenBank Installations from subdirectories of the selected directory.</p>
Procedures / Constraints	
Authorizations	
Data Validation	
Database File Size	
Confirmation	
Perform Operations	

8. You should now see the available settings for importing CenBank 4 files.

Directory location of CenBank files

If you are only importing files from a single installation of CenBank, then this field must be set to the directory location that you want to import from.

If you are importing files from a many installations of CenBank, then this field must be set to the root directory location that contains all of the CenBank installation directories.

Create report on results only import option

When the CenBank import process is executed, a report of the CenBank data will be generated. This report is composed of several HTML files with a single HTML index file (index.htm). You can choose to only generate the report files and not actually import the data. This is to assist with resolution of conflicting lock and user entries.

Directory location to save CenBank import report files

As stated, when the CenBank import process is executed, a report of the CenBank data will be generated. This report is composed of several HTML files with a single HTML index file (index.htm). Additionally, an example lock white list file is generated and an example user white list file is generated. This directory location indicates where to save these report files during the CenBank import process. The following report files are created:

- One report index file. (.htm)
- Three files for successful, failed/invalid, and conflicting locks. (.htm)
- Three files for successful, failed/invalid, and conflicting user. (.htm)
- One file for customer entries to be created matching the imported directory names. (.htm)
- One file for bank branch entries to be created matching the imported directory names and bank branch number. (.htm)
- One example lock white list file. (.csv)
- One example user white list file. (.csv)

File location of CenBank import lock white list to filter imported locks

This is the location of a comma delimited data file (CSV) that contains a list of lock serial numbers followed by each customer directory for the lock serial number. It should look like the following:

```
123456 , CUSTOMERDIR1
123457 , CUSTOMERDIR1
123458 , CUSTOMERDIR2
123459 , CUSTOMERDIR2
```

If you want to filter what locks are imported, set up a white list file with each lock listed that you want to import. If you generate a report of the CenBank import first, an example white list of locks will be generated that also has comments of what locks are conflicting. You can copy this file to a new name, remove invalid lock entries, and use that to control what locks are imported.

The lock white list file is optional. If you do not specify a lock white list file, an attempt will be made to import all of the CenBank locks.

File location of CenBank import user white list to filter imported locks

This is the location of a comma delimited data file (CSV) that contains a list of user key serial numbers followed by each customer directory for the user key serial number. It should look like the following:

```
840000000A5BBE , CUSTOMERDIR1
84000000150CD1 , CUSTOMERDIR1
840000001510BC , CUSTOMERDIR2
84000000151138 , CUSTOMERDIR2
```

If you want to filter what users are imported, set up a white list file with each user key serial number listed that you want to import. If you generate a report of the CenBank import first, an example white list of users will be generated that also has comments of what users are conflicting. You can copy this file to a new name, remove invalid user entries, and use that to control what users are imported.

Note: If you open the user white list file in Microsoft Excel, it is possible that some key serial numbers are incorrectly interpreted as numbers in scientific notation. To avoid this, the example user white list file has the user key serial numbers enclosed in the format ="key sn". The Cencon Database Setup Utility will ignore the additional characters around the user key serial number when it reads in the user white list file.

The user white list file is optional. If you do not specify a user white list file, an attempt will be made to import all of the CenBank users.

Once you have entered how you want to import CenBank files, click **Next**.

Cencon Database Setup Utility 5.0.1.3256

KARA Import Data From CenBank Data Files

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data**
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations

Do you need to import CenBank data files?

This will set up the data from the selected CenBank installation (or multiple installations) in the Cencon database. You will need to select the location of the files to import from.

Do not import CenBank data.

Import files from a single CenBank Installation from the selected directory.

Import files from multiple CenBank Installations from subdirectories of the selected directory.

Directory location of CenBank files: (Required)

C:\CenBank Files

Create report on import results only. Do not actually insert data into database.

Directory location to save CenBank import report files: (Required)

Note: Multiple files are created for the HTML report for the CenBank import results, and are saved to the specified directory location.

C:\Cenbank Report

File location of CenBank import lock white list to filter imported locks: (Optional)

C:\Cenbank Report\lock_white_list.csv

File location of CenBank import user white list to filter imported users: (Optional)

C:\Cenbank Report\user_white_list.csv

10. The page to assign a region name to the imported Cencon and CenBank data should now be displayed. You can enter in a new region name and it will be created for you. You can also select an existing region name if you have one defined. Once you have selected a region name to assign the imported data to, click **Next**.

Cencon Database Setup Utility 5.0.1.3260

KARA

Assign a Region to Imported Data

Setup Phase	Assign a Region Name to the imported Cencon and CenBank data	
ODBC Connection	<p>The region name will be assigned to the data being imported. If the region name does not exist in the database, the region name will be created. A region name is required even if you do not plan on using the Region name control feature in Cencon. Existing Cencon data will not be affected.</p> <p>Region Name: (Required) <input type="text"/></p> <p><input type="checkbox"/> Set region name as global (no access restrictions).</p>	
ODBC Database		
ODBC Schema		
Select Operation		
Import Cencon 1.5.X Data		
Import CenBank Data		
Assign Import Region		
Procedures / Constraints		
Authorizations		
Data Validation		
Database File Size		
Confirmation		
Perform Operations		
		<p><< Back</p> <p>Cancel</p>

11. The options for increasing the Cencon database file sizes should be displayed.

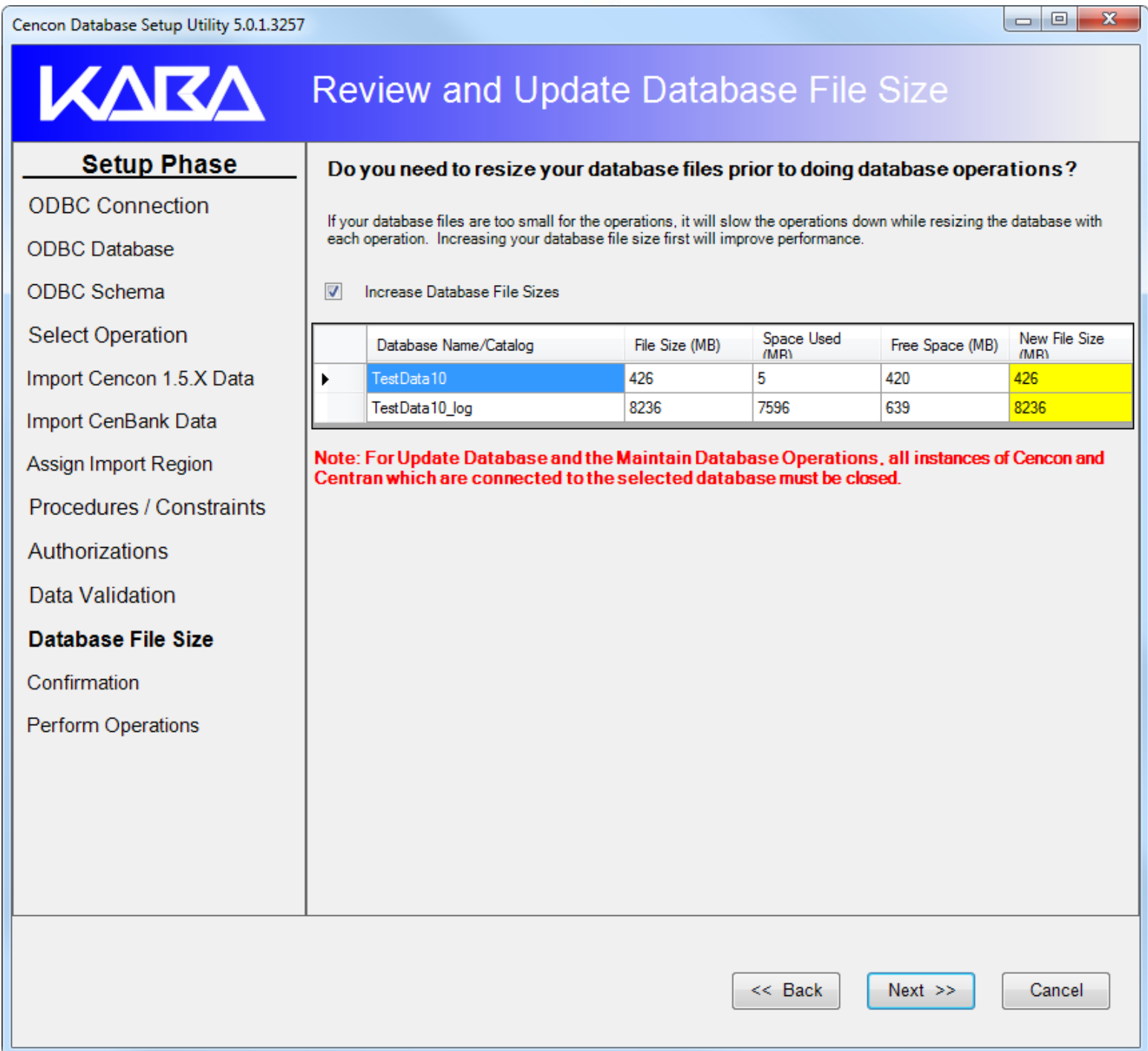
This option is only available to Microsoft SQL Server. It is not applicable to Oracle. Microsoft SQL Server will automatically increase the file sizes for a database by a small amount (default 10%) as needed. Each time this increase in file sizes occurs, performance drops dramatically because of the data copying required between files. To improve performance, it is possible to increase the file sizes before doing a large number of operations such as an update to the database structure.

Administrative access to resize the database file sizes is required for this operation. Depending on your authorization and configuration of Microsoft SQL Server, this option might not have the correct access to complete the operation.

Select if you want to resize the database files and if so, enter your desired larger files sizes. Click **Next**.

Important Note

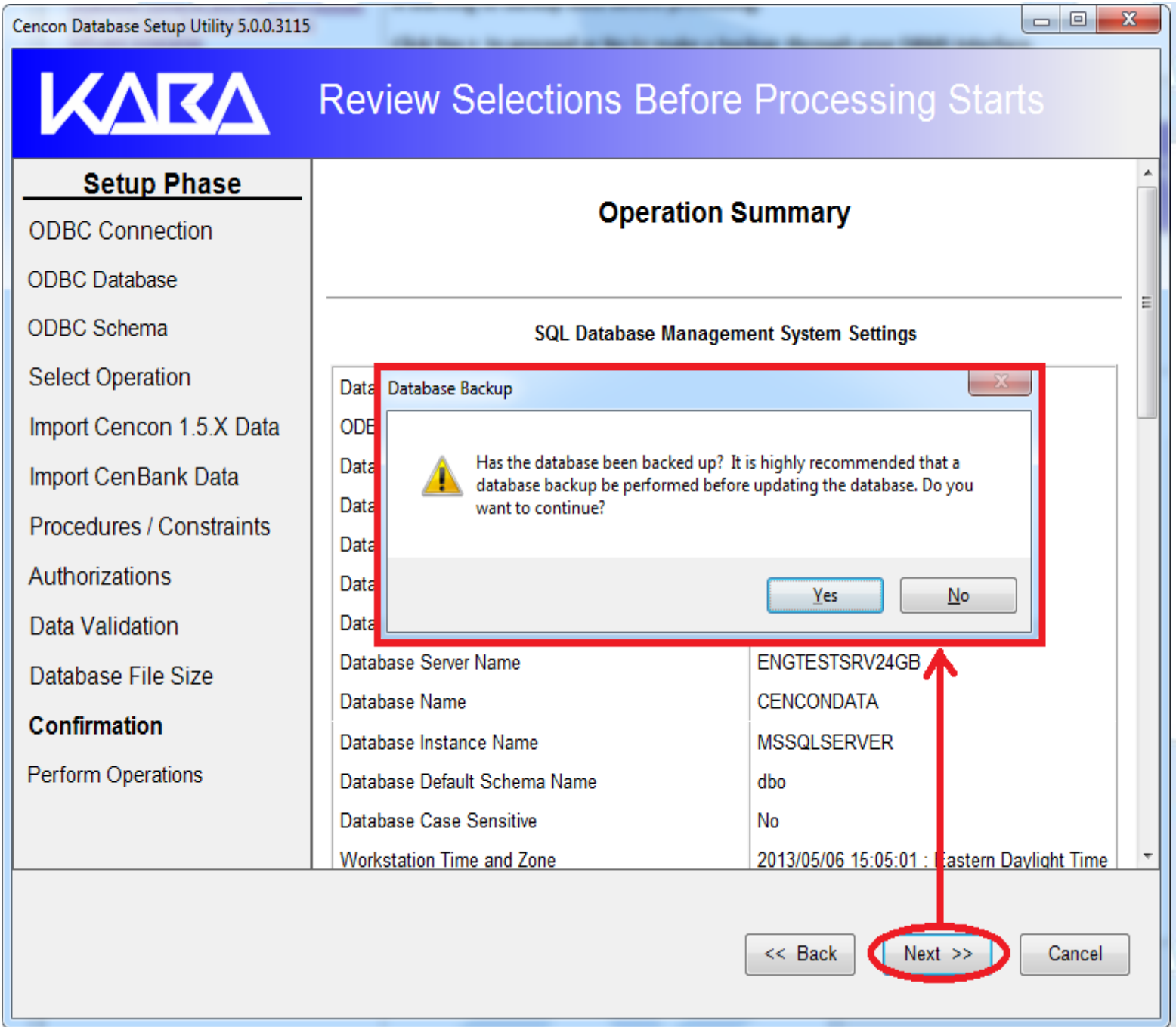
When importing legacy data, the DBMS transaction log may reach its restricted file growth. Increasing the size removes this concern of repeated auto growth slowing down performance.



12. A summary of information and processes to be performed by the Cencen Database Setup Utility will be displayed. Click **Next** to start the process of updating the Cencen database.

Warning

The Cencen Database should always be backed up regularly. Review DBMS website for back up methodology.



13. After clicking **Next** to start the legacy file import, the utility will do the selected import operations into the Cencon database. Depending on the size of the files and the performance of your database, this can take several minutes to hours.

Important

The CenBank import has been rewritten. Previously the CenBank import for multiple directories would import each directory one at a time. It now loads all of the CenBank locks, users and associated information from all of the directories into memory for analysis before importing data into the Cencon database. For a large number of CenBank installations, this could be 2 GB or more of free RAM memory needed.

The CenBank import now checks for conflicting locks and users between directories. If a conflict is found, none of the data will be imported and the CenBank report will indicate the conflicting locks and users.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations**



Copying Cenbank locks by serial number...
Finding users not referenced by locks...
Scanning for duplicate lock serial numbers...
Scanning for duplicate user key serial numbers...
Adding CenBank customers to database...
Adding CenBank bank branches to database...
Adding CenBank users to database...
Adding CenBank locks to database...
Saving Cenbank audits from temporary audit table to Cencon database audit table...
24711 audit records saved successfully.
Generating report for CenBank locks...
Generating example white list for CenBank locks...
Generating report for CenBank users...
Generating example white list for CenBank users...
Generating report for CenBank customers...
Generating report for CenBank bank branches...
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_successful_locks.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_failed_locks.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_conflicting_locks.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_successful_users.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_failed_users.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_conflicting_users.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_customers.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_bank_branches.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_lock_white_list.htm
Saving Cenbank import report file: C:\Cenbank Report\cenbank_import_user_white_list.htm
Saving Cenbank import report file: C:\Cenbank Report\index.htm
Finishing import of CenBank files...

Import Data Complete!

Report Created On: 2013-10-17 15:49:15 (DST)
CenconDBSetupUtility Version 5.0.1.3260
Kaba Mas LLC

Close

Click the Save icon to save the HTML installation report for later review.

Click the **Close** button to close the Cencon Database Setup Utility.



Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**

The image shows a 'Save As' dialog box within the application. The current location is 'Desktop'. The file type is set to 'HTML files (*.htm)'. The 'File name' field is empty. The 'Save' button is highlighted in blue. A red circle highlights the 'Save' button in the top-left corner of the application window.

Close

Cencon® 5 Getting Started Guide

Reporting on Database

The Cencon® Database Setup Utility option for Reports reviews and lists on all tables, procedures, constraints, triggers, indexes, and column widths that are currently in the Cencon database.

Caution

The Cencon® Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

Select Set Up Cencon Database to launch the CenconDBSetupUtility.exe.

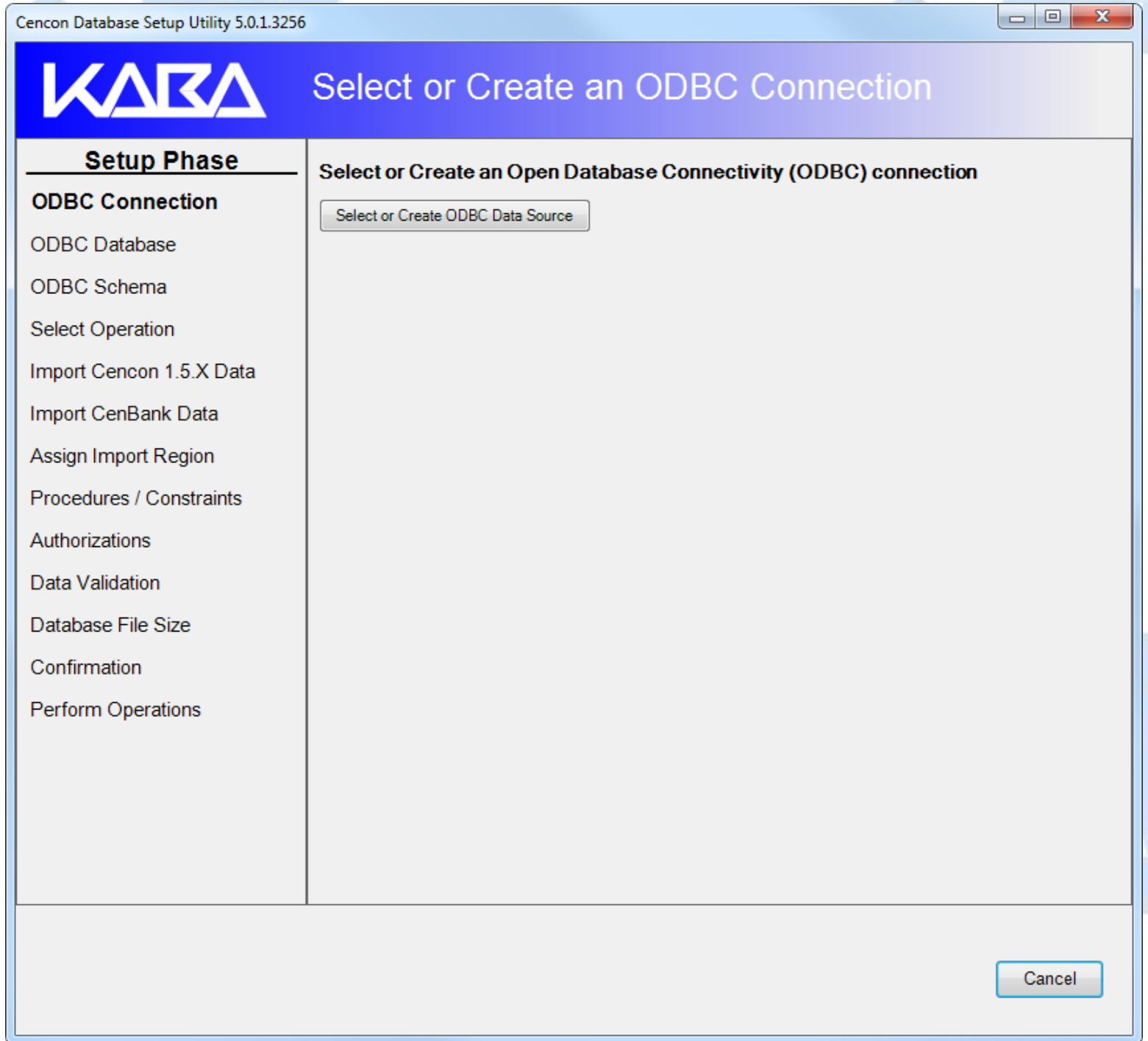
NOTE: The CenconDBSetupUtility.exe can also be launched manually by browsing the install source (DVD, USB drive, or download) to the correct folder based on your operating system:

- DBSetupUtility\Windows_32bit\CenconDBSetupUtility.exe
- DBSetupUtility\Windows_64bit\CenconDBSetupUtility.exe

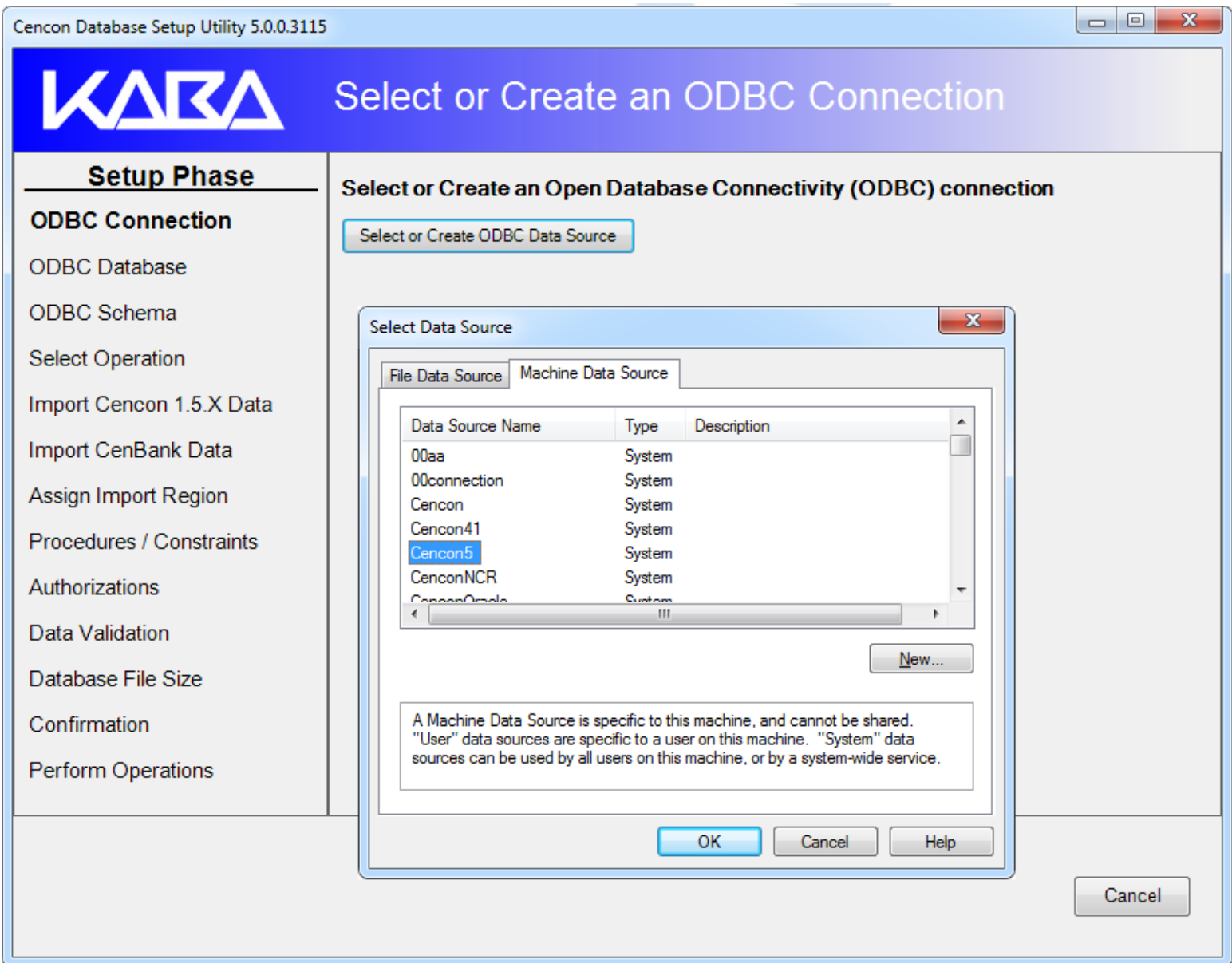
1. Click the button labeled **Set Up Cencon Database**.



The Cencon Database Setup Utility will display as shown below:



2. Click the button labeled **Select or Create ODBC Data Source**. The Select Data Source dialog will be displayed. Select the **Machine Data Source** tab of the Select Data Source dialog. Then select or create the ODBC connection to your database, and click **OK**.



Note

When selecting an ODBC connection it may take a moment to load Data Source information.

Caution

The Cencon® Database Setup Utility should be run on the same machine where the DBMS is located to maximize performance.

3. After selecting the ODBC connection to your database, the information about the ODBC connection will be displayed. Review the information about your database connection then click the **Next** button.

Cencon Database Setup Utility 5.0.1.3256

KARA

Select or Create an ODBC Connection

Setup Phase	Select or Create an Open Database Connectivity (ODBC) connection
ODBC Connection	<input type="button" value="Select or Create ODBC Data Source"/>
ODBC Database	Data Source Name: Engtestsrv24gb TestData10
ODBC Schema	User ID: MHG\linstall
Select Operation	Database Administrator: Yes
Import Cencon 1.5.X Data	Database Management System Name: Microsoft SQL Server
Import CenBank Data	Database Management System Version: 10.50.2550
Assign Import Region	Database Management System Compatibility Level: 100
Procedures / Constraints	Catalog Compatibility Level: 100
Authorizations	Server Name: ENGTESTSRV24GB
Data Validation	Database Name: TestData10
Database File Size	Instance Name: MSSQLSERVER
Confirmation	Default Schema Name: dbo
Perform Operations	Case Sensitive: No
	Workstation Time and Zone: 2013/10/15 12:01:49 : Eastern Daylight Time
	DB Server Time and Zone: 2013/10/15 12:01:49 : (UTC -4 Hours)
	Workstation IP Address: 10.108.6.103
	Database Server IP Address: 10.108.6.111
	Database Setup Version: 3256

4. The available operations that can be performed by the Cencon Database Setup Utility are displayed. Select **Report on an existing Cencon database without making changes** and click **Next**.

Note

The Cencon Database Utility now checks the selected database and schema for an existing Cencon installation. If the selected Cencon database is empty, then **Create a new Cencon database** will be the only operation enabled. If the selected Cencon database has a previous version of Cencon tables present, then **Update the existing Cencon database** will be the only operation enabled. If the selected Cencon database is up to date with this version of the Cencon Database Setup Utility, then all of the operations except **Create a new Cencon database** will be permitted.



Select Database Operation

Setup Phase

ODBC Connection

ODBC Database

ODBC Schema

Select Operation

Import Cencon 1.5.X Data

Import CenBank Data

Assign Import Region

Procedures / Constraints

Authorizations

Data Validation

Database File Size

Confirmation

Perform Operations

Select one of the following operations :

- Create a new Cencon database.**

(Creates a new blank Cencon database. If the connection is set to an existing Cencon database, this will update the selected existing Cencon database.)

- Update the existing Cencon database.**

(Updates an existing Cencon database and creates any missing tables. If the connection is not set to a Cencon database, this will not create a new blank Cencon database.)

- Import legacy data into the Cencon database.**

(Does the selected import operations on an existing Cencon database. Does not change existing Cencon data. This can be used on a Cencon database in active use.)

- Report on an existing Cencon database without making changes.**

(Creates an HTML report of tables, columns, views, and stored procedures present in the Cencon database. This is to assist with technical support issues.)

<< Back

Next >>

Cancel

5. A summary of information and processes to be performed by the Cencon Database Setup Utility will be displayed. Click **Next** to start the process of reporting on the Cencon database.



Review Selections Before Processing Starts

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation**
- Perform Operations

Operation Summary

SQL Database Management System Settings

Data Source Name	Engtestsv24gb TestData10
ODBC DSN User ID	MHG\Install
Database Administrator	Yes
Database Management System Name	Microsoft SQL Server
Database Management System Version	10.50.2550
Database Management System Compatibility Level	100
Database Catalog Compatibility Level	100
Database Server Name	ENGTESTSRV24GB
Database Name	CENCON5
Database Instance Name	MSSQLSERVER
Database Default Schema Name	dbo
Database Case Sensitive	No
Workstation Time and Zone	2013/10/15 14:19:25 : Eastern Daylight Time
Database Server Time and Zone	2013/10/15 14:19:25 : (UTC -4 Hours)
Workstation IP Address	10.108.6.103
Database Server IP Address	10.108.6.111
Database Specified Schema Name	DBO
Database Specified Catalog Name	CENCON5
Cencon Database Version Number	
Cencon Database Setup Utility Version Number	3256

<< Back

Next >>

Cancel

6. After clicking **Next**, the utility generates a report of the database tables, stored procedures, indexes, and constraints for Cencon.

Cencon Database Setup Utility 5.0.1.3257

KARA Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Assign Import Region
- Procedures / Constraints
- Authorizations
- Data Validation
- Database File Size
- Confirmation
- Perform Operations**

CENROUTE_UPDATE	Good
CENROUTEARCHIVEV4_INSERT	Good
CENROUTEARCHIVEV4_UPDATE	Good
CENROUTELOCK_INSERT	Good
CENROUTELOCK_UPDATE	Good
CENROUTELOCKARCHIVEV4_UPDATE	Good
CENROUTELOCKV4_INSERT	Good
CENROUTELOCKV4_UPDATE	Good
CENROUTELOCKVARCHIVE4_INSERT	Good
CENROUTEV4_INSERT	Good
CENROUTEV4_UPDATE	Good
CENUSERLOCKHISTORYV4_INSERT	Good
CENUSERLOCKHISTORYV4_UPDATE	Good
CENUSERLOCKV4_INSERT	Good
CENUSERLOCKV4_UPDATE	Good

Report Complete!

Report Created On: 2013-10-16 14:14:17 (DST)
CenconDBSetupUtility Version 5.0.1.3257
Kaba Mas LLC

Click the Save icon to save the HTML database report for later review.

Click the **Close** button to close the Cencon Database Setup Utility.





Perform Selected Database Operations

Setup Phase

- ODBC Connection
- ODBC Database
- ODBC Schema
- Select Operation
- Import Cencon 1.5.X Data
- Import CenBank Data
- Procedures / Constraints
- Authorizations
- Confirmation
- Perform Operations**

The 'Save As' dialog box is open, showing the 'Desktop' location. The file type is set to 'HTML files (*.htm)'. The 'File name' field is empty. The 'Save' button is highlighted.

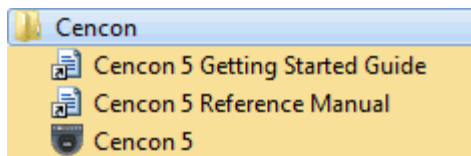
Close

Cencon[®] 5 Getting Started Guide

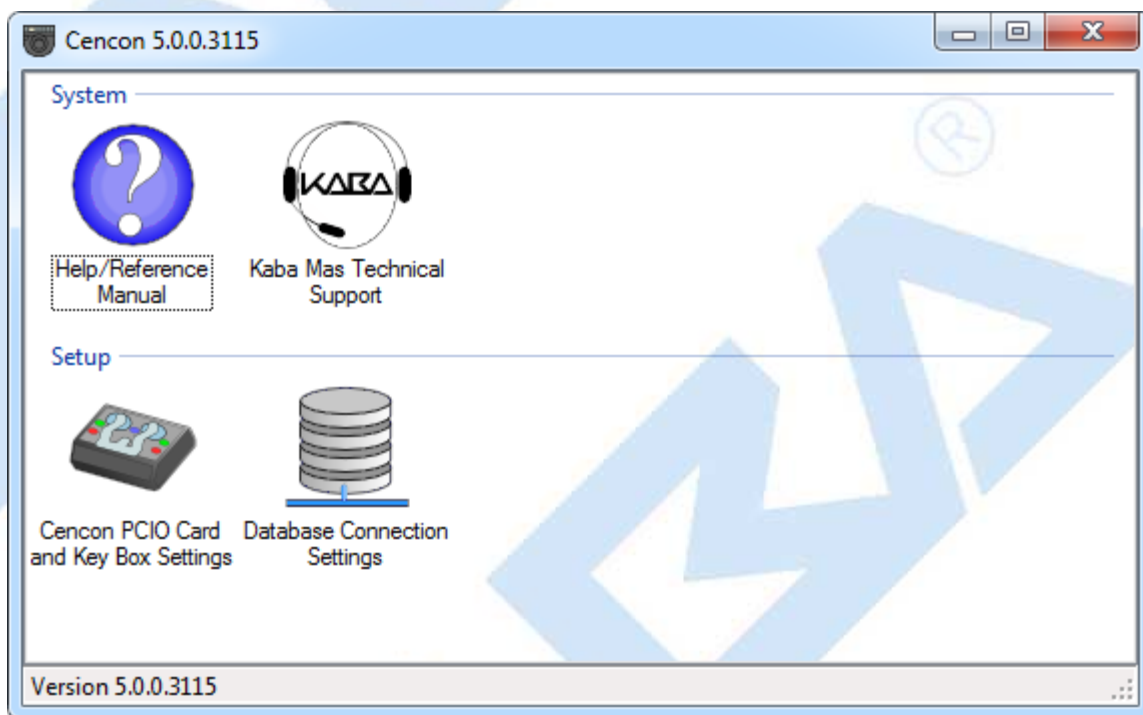
Start the Cencon[®] 5 Program

To start the Cencon[®] 5 program:

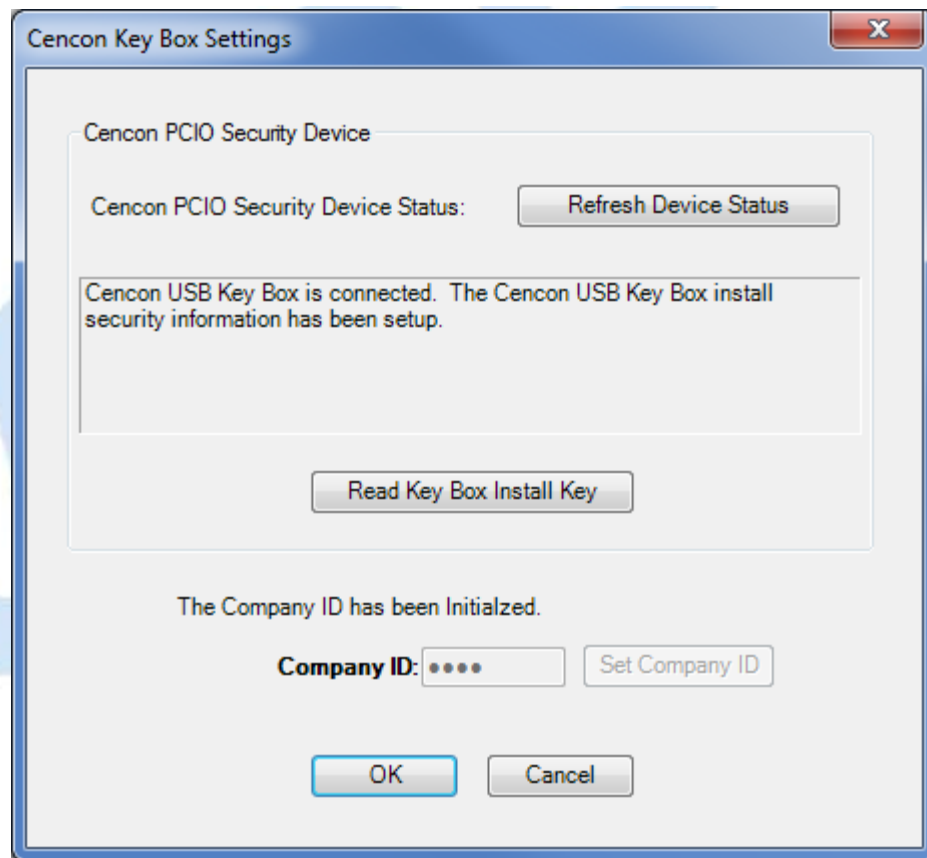
1. Select the Start icon from the Windows task bar.
2. Select the Programs menu item.
3. Select the Cencon menu item and then the Cencon[®] 5 icon:



Initial Cencon[®] 5 Startup screen:



4. If you are going to use the Cencon USB Key Box, the first task is to initialize it. Verify that the Cencon USB Key Box is plugged into any USB port on your computer and select **Cencon Key Box Settings** to display the Configuration Settings screen.



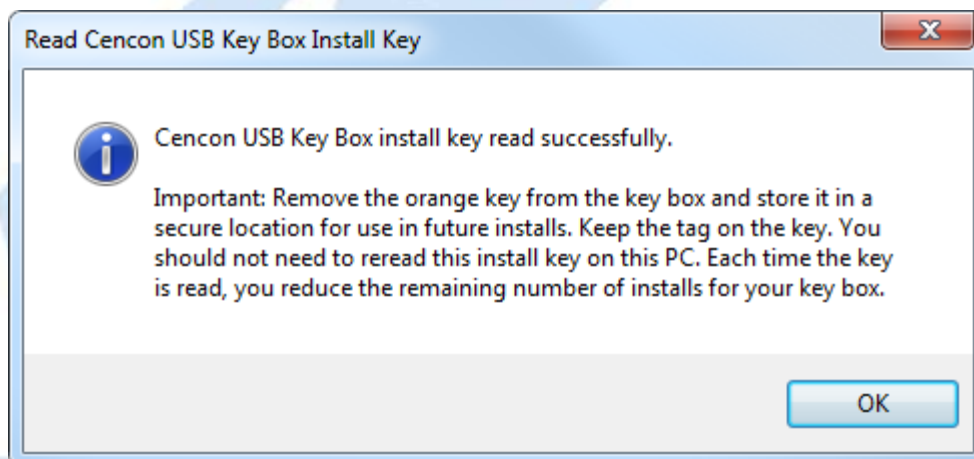
5. Enter your **Company ID**.

The value entered for this field can be any complex four-digit number you wish to identify your company. You should choose a number that is, in some way, meaningful to your company. **Record the Company ID and store it in a secure place.**

Warning:

Record the Company ID and store it in a secure place. Once this ID is set, it becomes encrypted and it cannot be changed. If you are a branch of a larger company, you must enter the Company ID that has already been chosen for your company. If you are planning to activate locks from a remote PC, the Company ID must be the same on all systems involved in the process.

6. Insert the Orange Install Key into the right Key Box reader position (the green LED on the right should be blinking) and press the **Read Key Box Install Key** button. The following message indicates successful initialization:



Important Note:

Remove the Key Box Install Key and store it in a safe place. You must have this key **and** the information on the attached key tag if you ever need to reinstall the Cencon Key Box or order replacement parts. You have a limited

number of installs associated with the Key Box Install Key.

7. Select **Database Connection Settings** to access the dialogs which allow you to identify the appropriate Cencon database.

Database Connection Settings

Select an Open Database Connectivity (ODBC) connection for the data source.

Select ODBC Data Source

Database ODBC Information

Data Source Name:	Cencon 4
User ID:	MHG\kholme
Database Administrator:	Yes
Database Management System Name:	Microsoft SQL Server
Database Management System Version:	10.00.4064
Server Name:	KHOLMESW7LT\SQLEXPRESS
Database Name:	CENCON4
Instance Name:	SQLEXPRESS
Schema Name:	CENCONUSER
Case Sensitive:	No
Workstation Time and Zone:	2012/02/16 12:52:39 : Eastern Standard Time
Database Server Time and Zone:	2012/02/16 12:52:39 : (UTC-5 Hours)
Workstation IP Address:	<local machine>
Database Server IP Address:	Unable to determine the IP address.

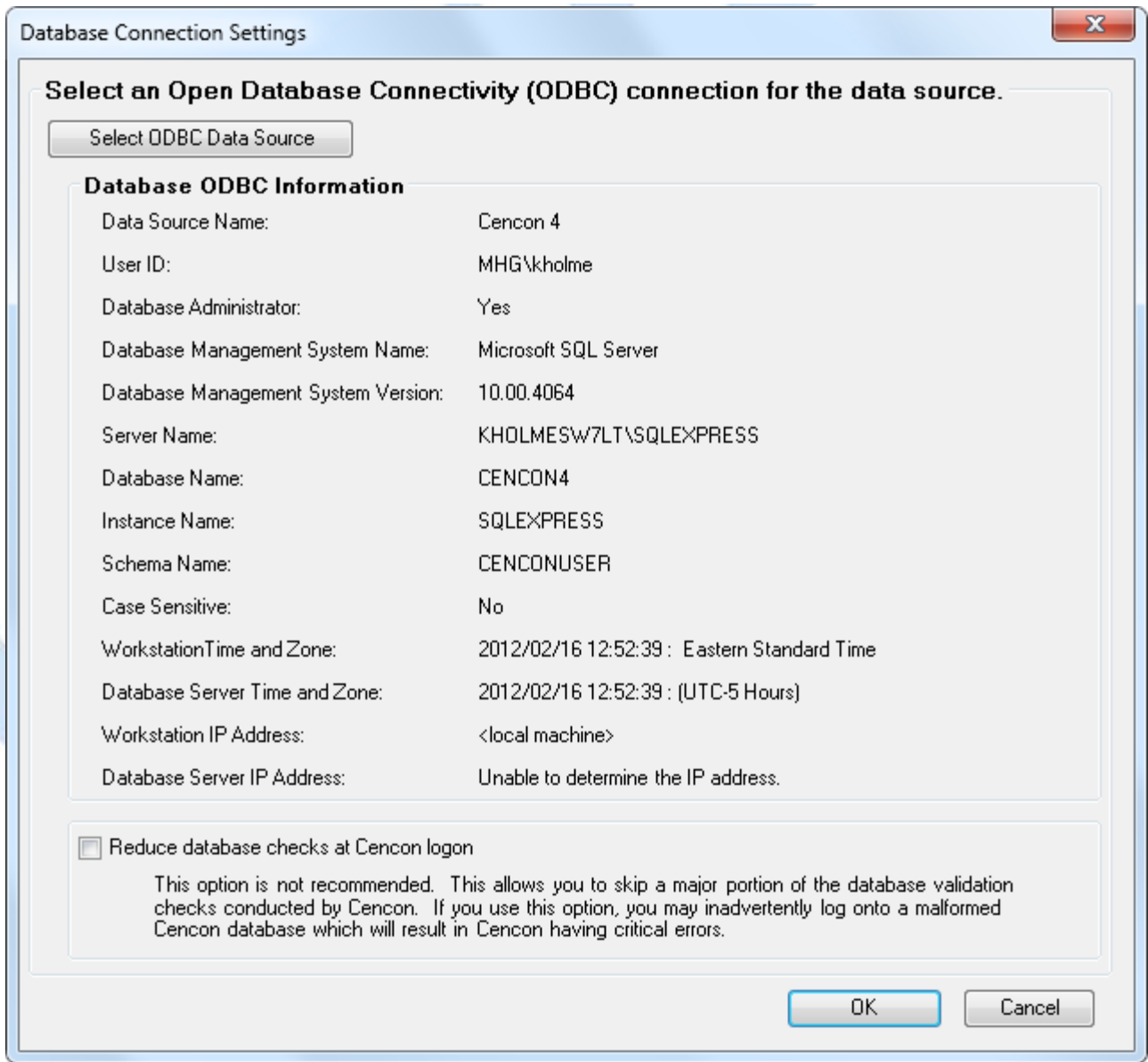
Reduce database checks at Cencon logon

This option is not recommended. This allows you to skip a major portion of the database validation checks conducted by Cencon. If you use this option, you may inadvertently log onto a malformed Cencon database which will result in Cencon having critical errors.

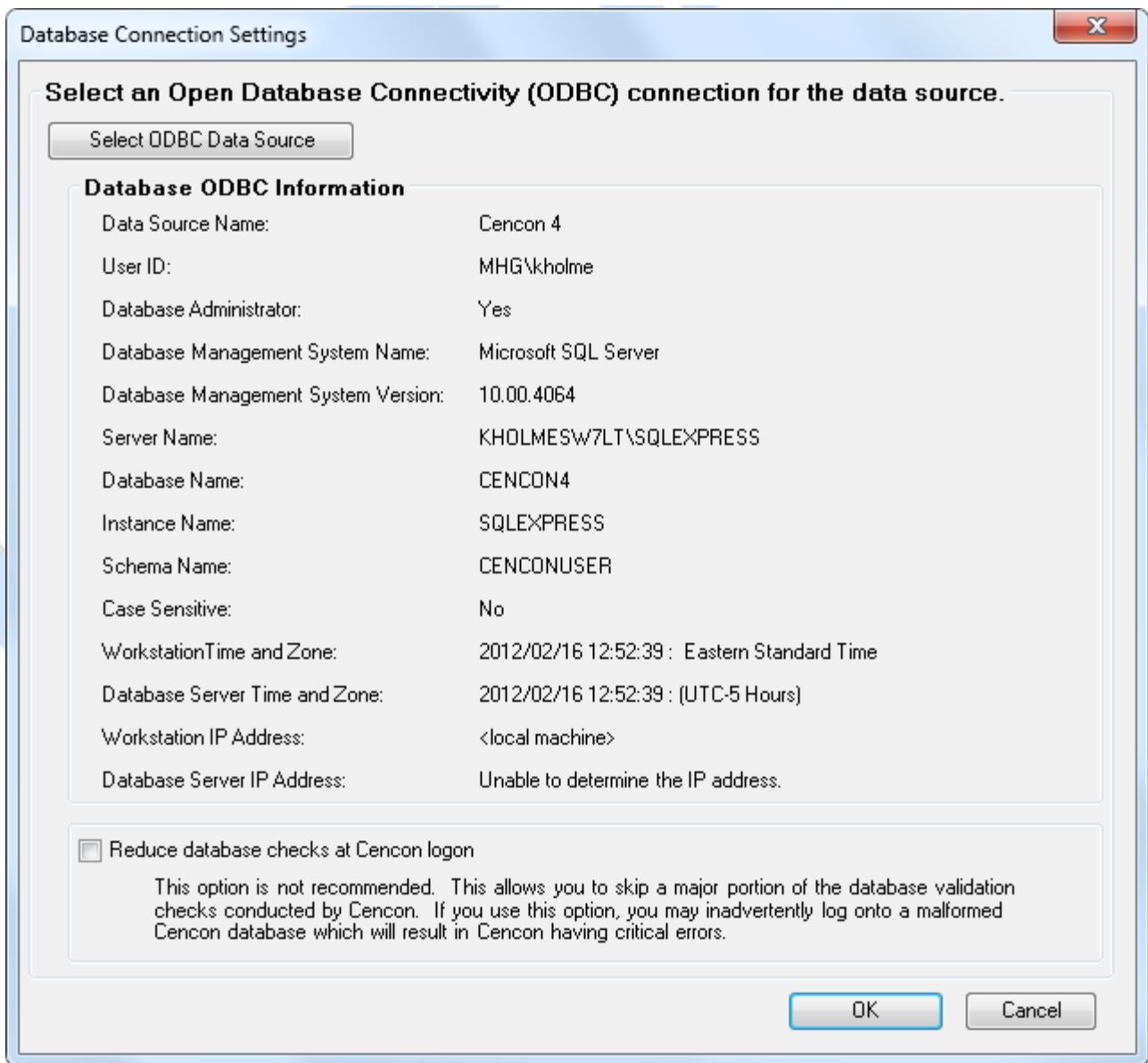
OK Cancel

If the input field for **Set this ODBC Connection as fixed database logon** is checked, Cencon remembers the database connection for the next time the program is loaded.

8. Select the button labeled **Select ODBC Data Source** to select the ODBC connection for the database to be used with the Cencon[®] 5 system.
9. Select the Catalog tab if you need to modify the database catalog name:

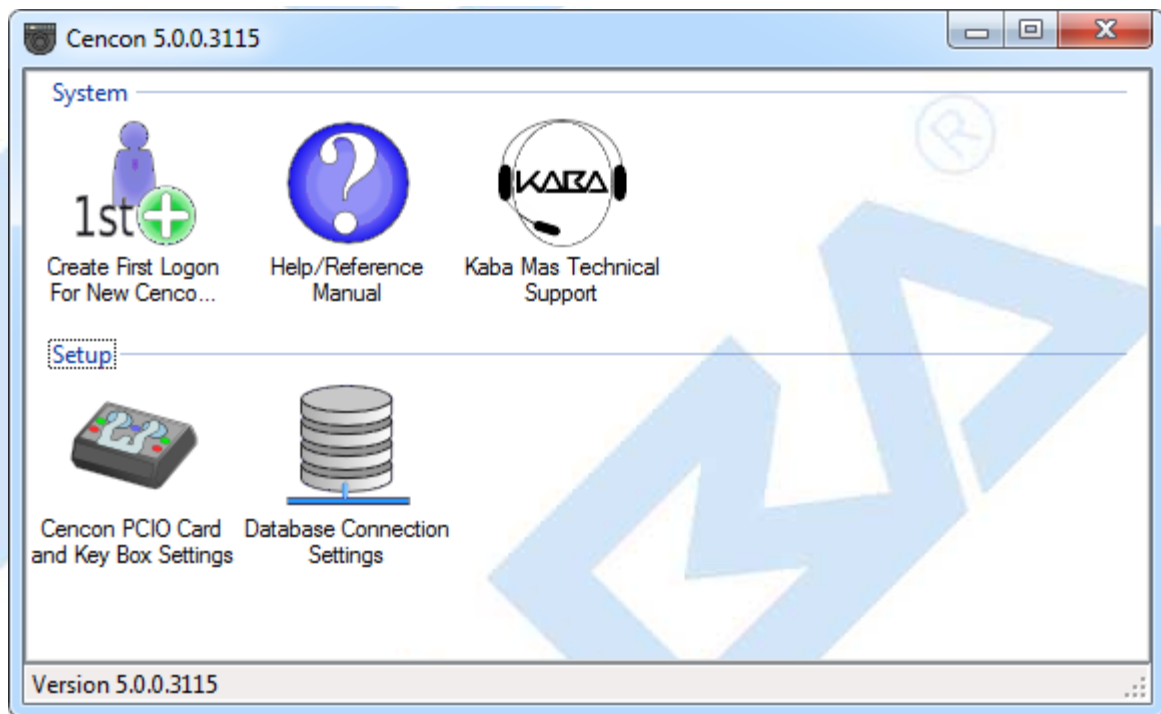


10. Select the Schema tab if you need to modify the database schema:

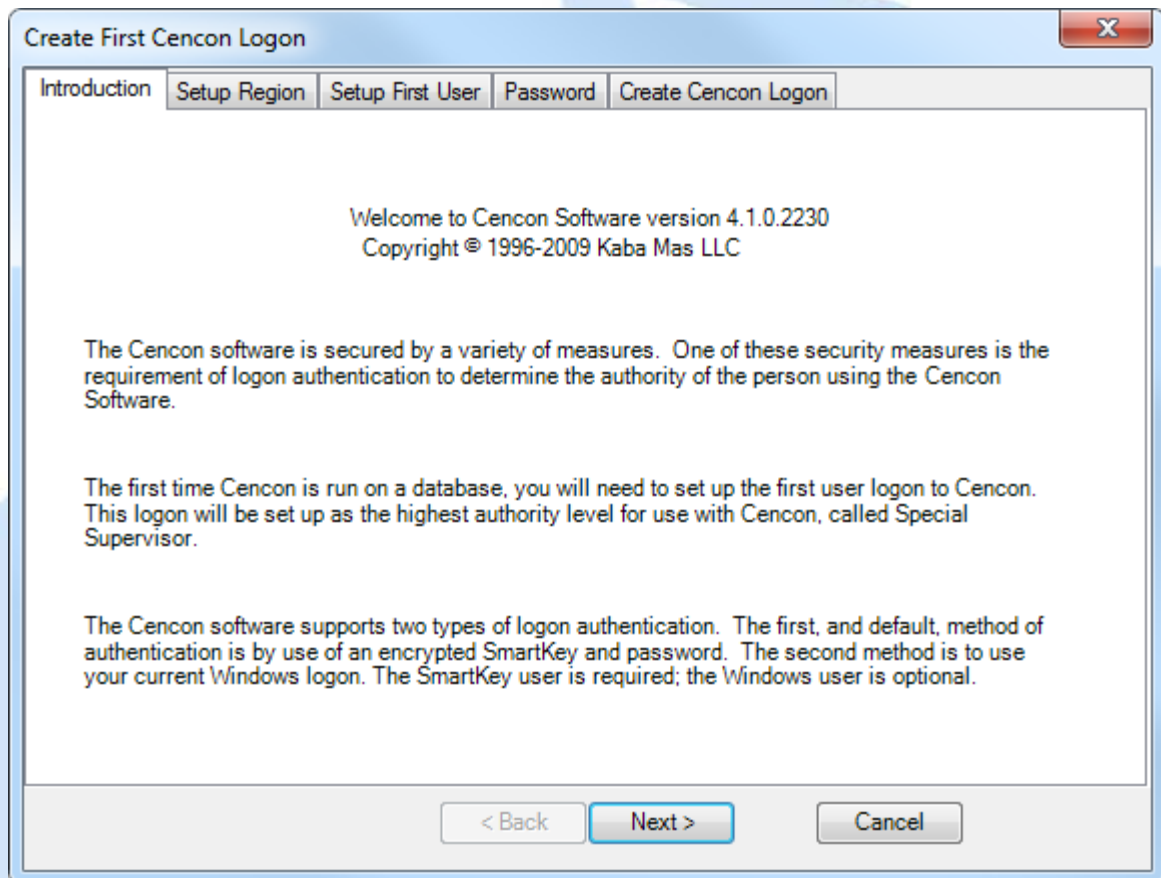


If using the default schema of "dbo" with one of the versions of Microsoft SQL Server, (i.e. Microsoft SQL Server 2008 R2, 2008 R2 Express, 2012, etc) you do not have to update the schema name.

11. The following window is displayed when a database is successfully identified:

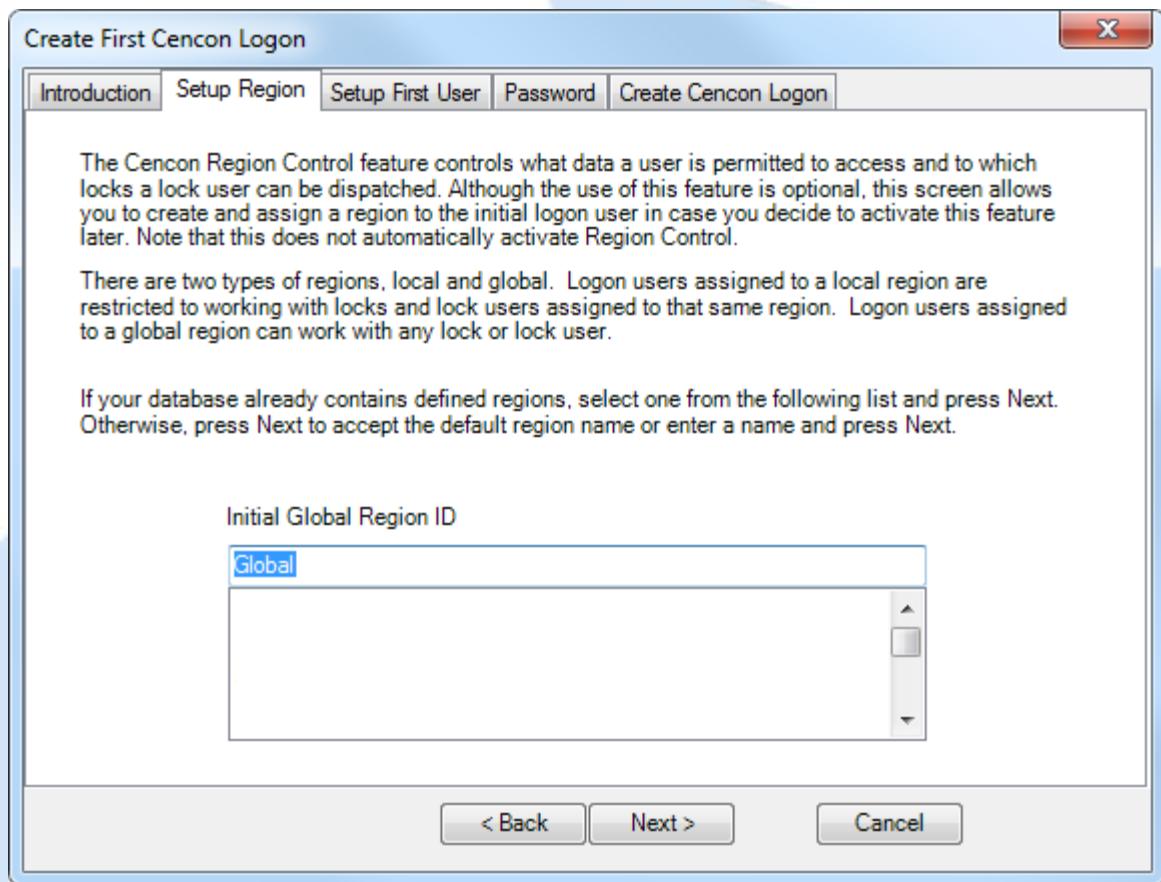


12. Some initialization information must be entered before using Cencon for the first time. Select the **Create First Logon for New Cencon Installation** icon to start the setup wizard which will walk you through this process:



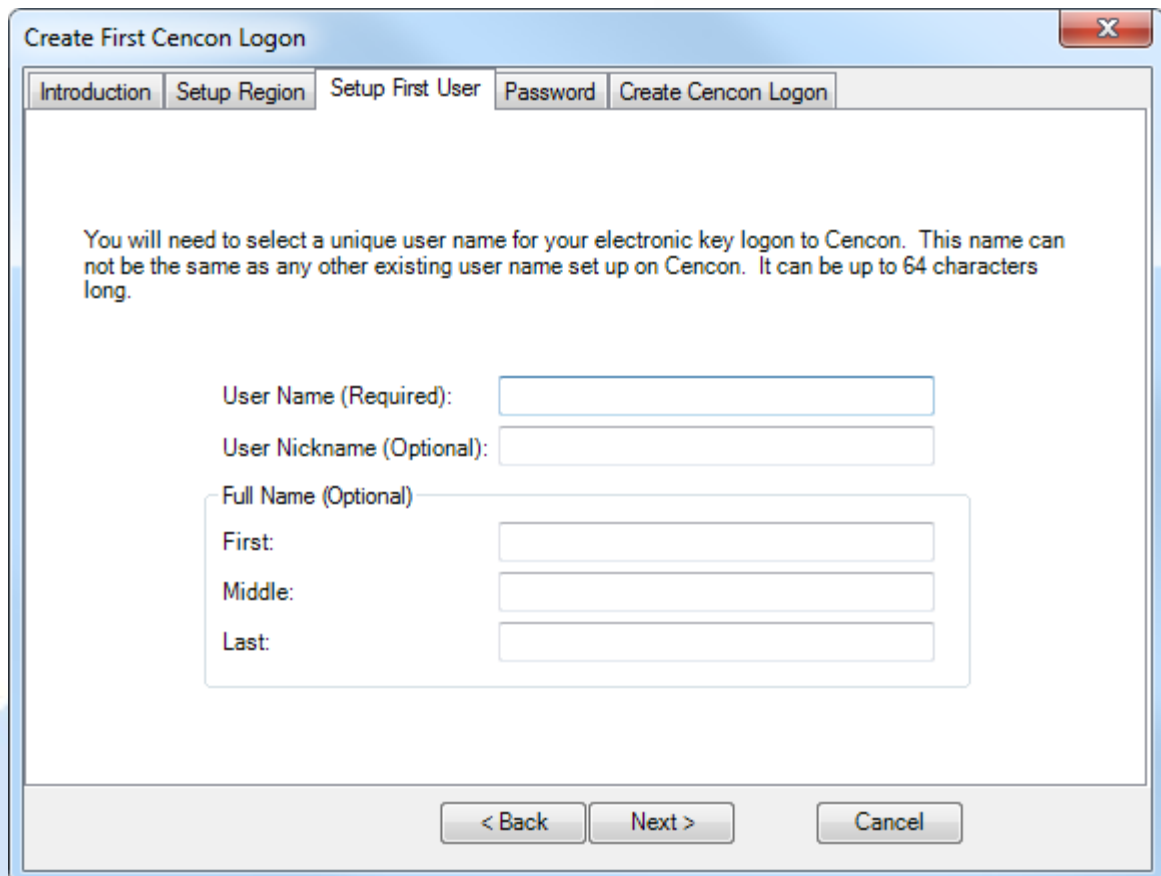
13. Click on **Next >** to continue.

The Setup Region tab allows you to set up the Region Control feature. The Region Control feature allows the grouping of users, locks, and routes into specific regions. Global data access can be given to some users while data access can be limited for other users to only the users, locks and routes in a specific region. Note that this screen does *not* activate the Cencon region control feature - it defines a global region and assigns it to the initial user in case the region feature is activated at a later time.



14. Follow the instructions on the screen to **Add** an initial region.

15. Click on **Next >** to continue:



Note

Suggested User IDs: User IDs are very critical in the Cencon System. They can be up to sixty-four (64) characters in length. However, if you are using CenTran in conjunction with your Cencon system, you need to consider that the CenTran User ID field is limited to 20 characters. Using "Bill" as a user ID is valid, however, you may have more than one "Bill" in your organization. Using "98709003" as a user ID is also valid but may get confusing. Additionally, in dispatching a person we know as "Bill" using the number "98709003" as the user ID can also be confusing. It is suggested that user IDs be alpha or alphanumeric. It is also suggested that you use "Nicknames". For example, a user can be identified as "FLM1" and use "Bill N" in the Nickname field. Another example could be a user identified as "Tom1" and use "Flemming" (last name) in the Nickname field. Spaces are allowed in ID fields so "Bill Jones" is valid. However you choose to identify users, some thought should be given to it before you begin. Case sensitivity will apply if it has been selected in SQL Server as a requirement for the database.

16. Follow the instructions on the screen to create an initial user. Keep in mind that this field may be case sensitive (depending on the SQL Server settings) and recognizes spaces as well as characters.

Caution

Nicknames can be up to sixty-four (64) characters in length. However, if you are using CenTran 3.x (and below) in conjunction with your Cencon system, you need to consider that the CenTran Nickname field is limited to 10 characters. The CenTran 5 XML schema allows the use of longer names.

17. Click on **Next >** to enter the password for the user.

Note

User Passwords are case sensitive and can be up to sixty-four (64) characters in length. Since the User Passwords for Software Users (black SS, S, and D keys) are used as logon passwords for the software, they should be kept secret.

Create First Cencon Logon

Introduction Setup Region Setup First User Password Create Cencon Logon

You will need to select a password for your electronic SmartKey key logon to Cencon. This password is used with your key to log onto Cencon. It can be up to 64 characters long, and can contain only the following characters or numbers:

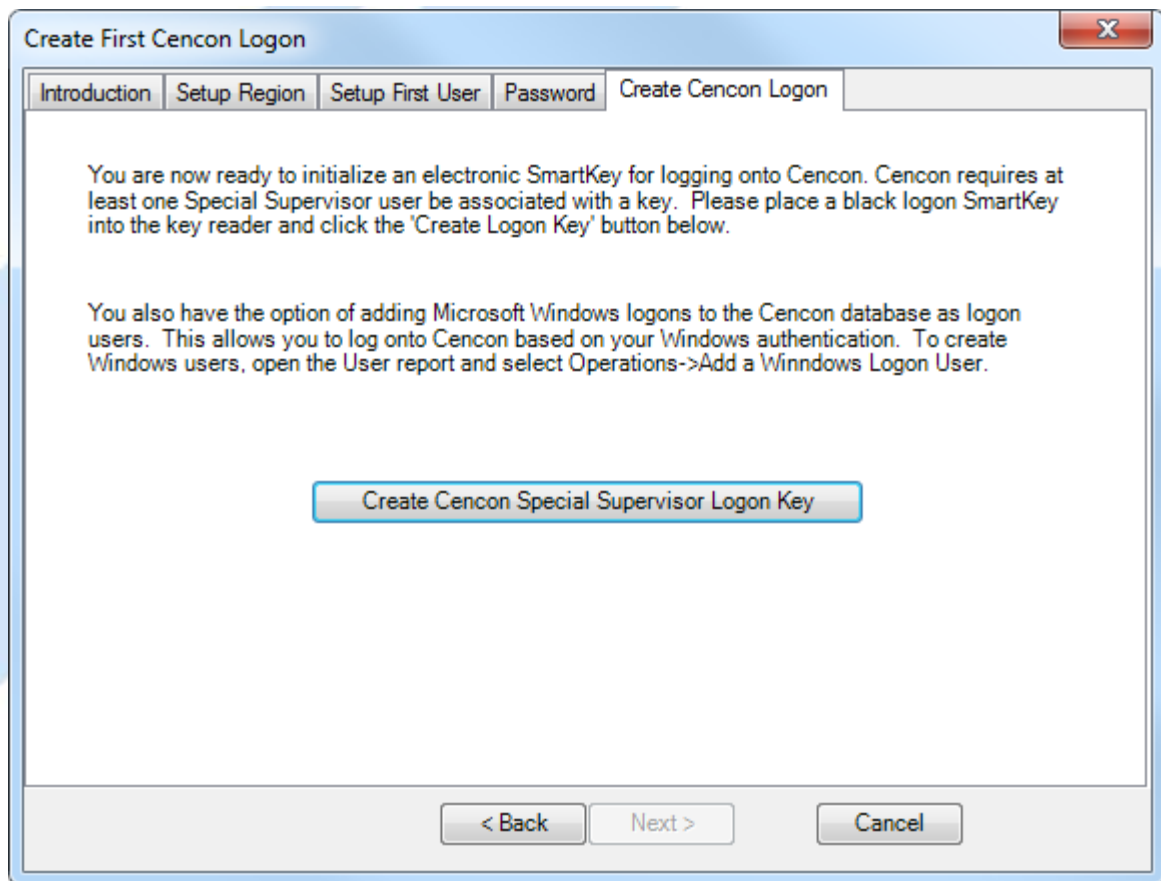
abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ
UVWXYZ1234567890~!@#\$%^&*()-+_=[]|:;<>.,?

Password:

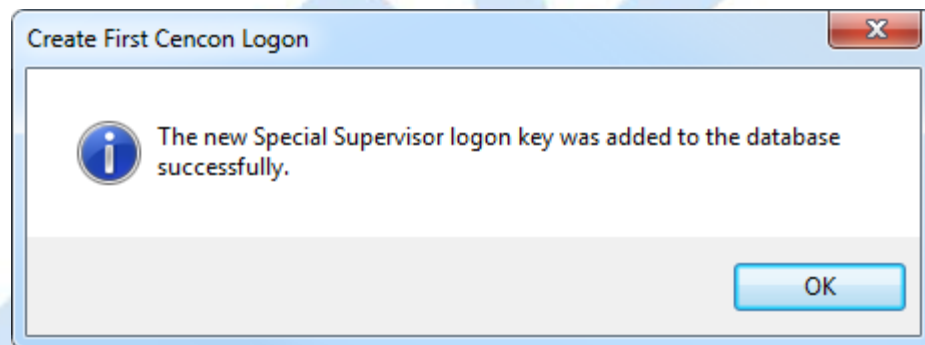
Confirm Password:

< Back Next > Cancel

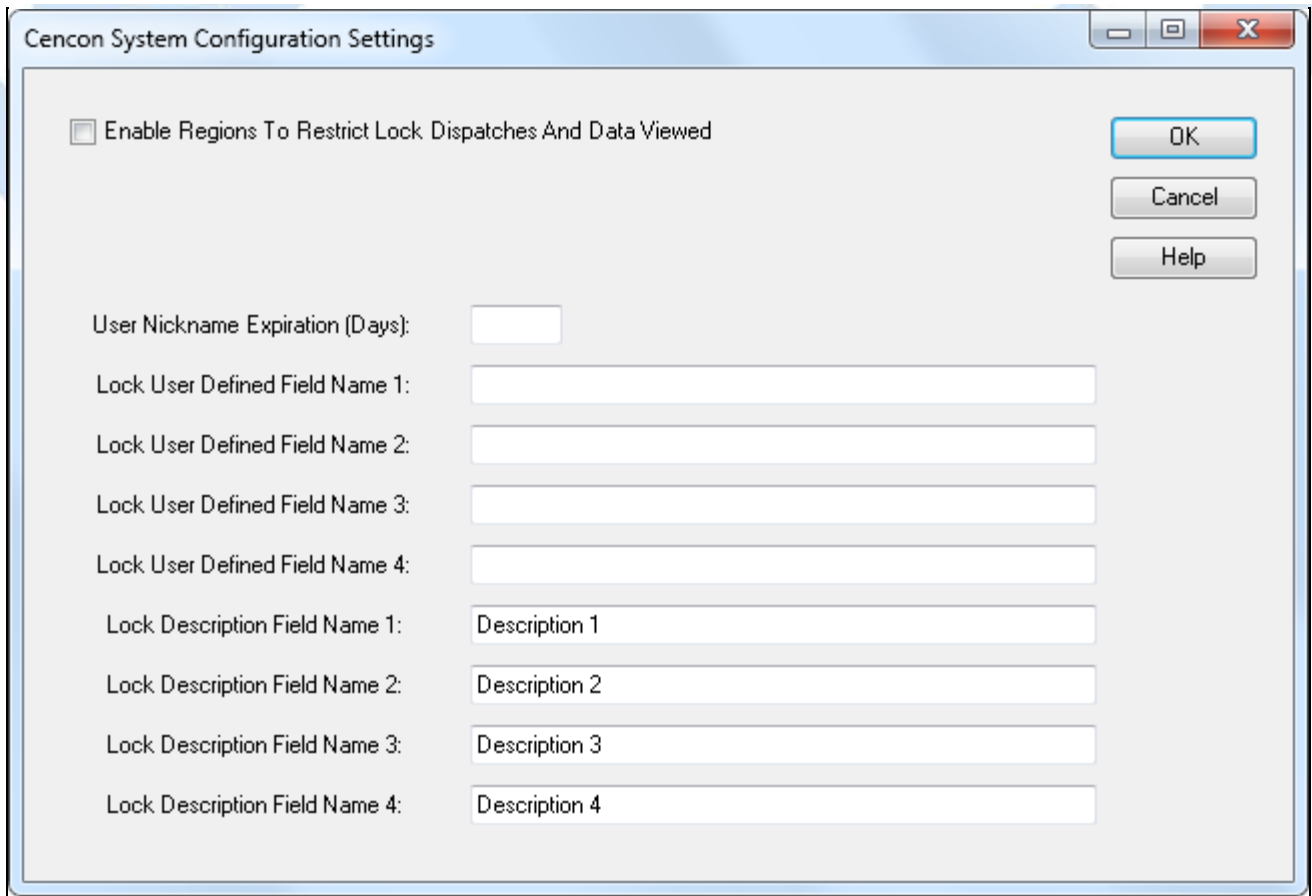
18. Enter a password (and the confirmation) and click on **Next >**.



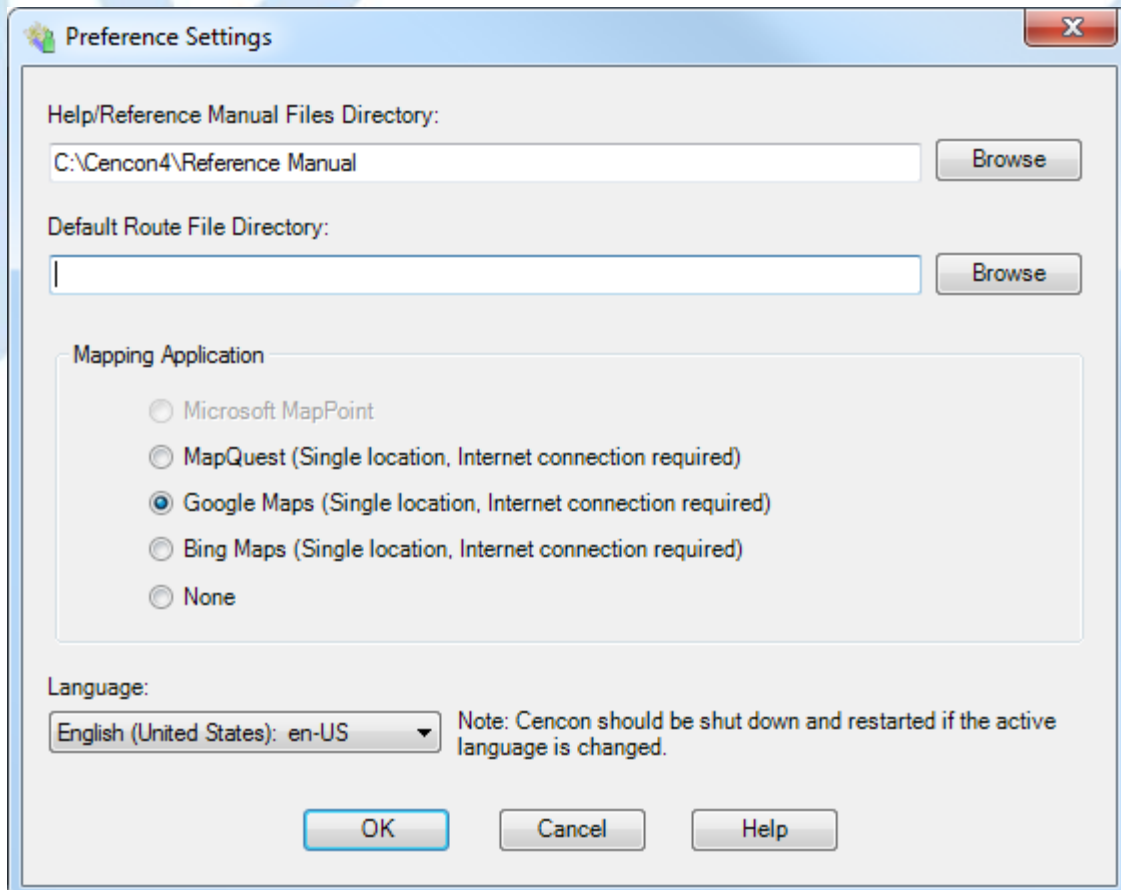
19. Place a black logon type key into the right hand position of the Cencon Key Box (note the blinking green LED). Follow the instructions on the screen for creating a user key and optional Windows logon. Press the **Finished** button when the users have been created.



20. Click **OK** and then **Finished** to complete the start up process.
21. Press **Finished** to end this part of the start up process.
22. You are next given the opportunity to configure settings which affect all users of your Cencon installation. See the Cencon Reference Manual for details. You can return to this function at any time by selecting the **Change Configuration Settings** icon on the main screen.



23. Finally, you can set preferences which apply to the current PC. See the Cencon Reference Manual for details. You can return to this function at any time by selecting the **Change Preferences** icon on the main screen.



Cencon[®] 5 Getting Started Guide

Logon to the Cencon[®] 5 System

The Cencon[®] 5 startup window controls access to configuration settings and logon:

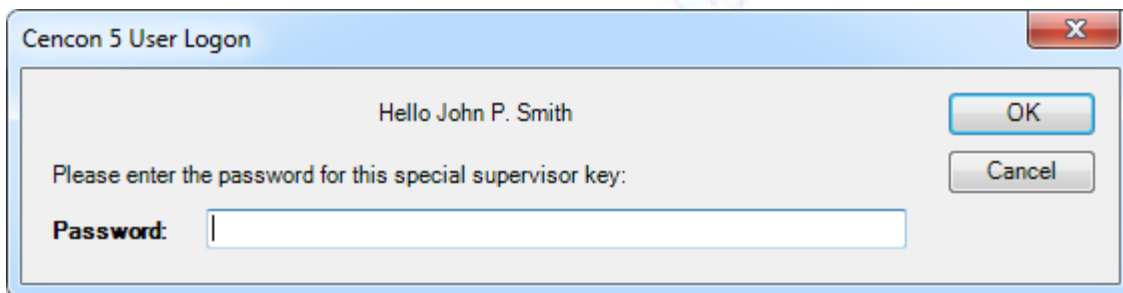


Cencon allows a user to logon using either an authorized Special Supervisor, Supervisor, or Dispatcher key.

Note

Place the logon key in the left key position on the Cencon Key Box.

To logon using a key, select **Logon to Cencon with Key**. If the key is recognized as valid, enter the password as requested.



Remember that this field is case sensitive and recognizes spaces as well as characters.

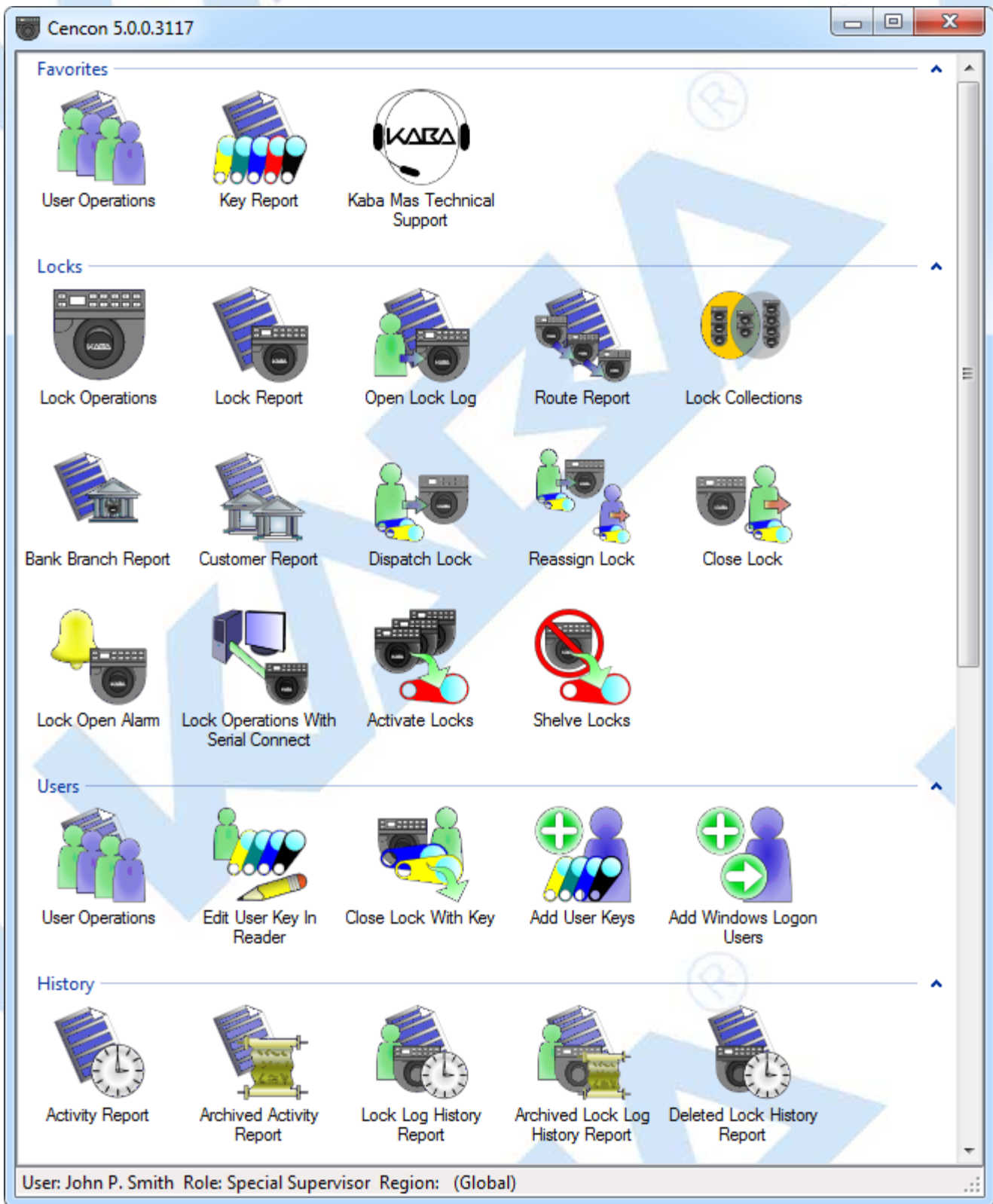
Note

You cannot logon to the system using a nickname, or a user ID. You must use the password specified for the key in the key reader. The key in the key reader identifies the user trying to log onto the Cencon[®] 5 System.

Hint

If a window is displayed indicating that the User ID doesn't pass authority check, first check to make sure that the appropriate key is in the reader and that the reader is properly connected.

After a successful logon, the Cencon® 5 Main Menu window is displayed. Some of the items in the below window may not be displayed on your system depending on your user authority settings.



The Status Bar is located at the bottom of the Cencon Main Menu screen. Prior to logon, this area displays the Cencon software version information. After logon, this bar displays the name of current logged on user, their assigned role, and region information (if region control is active).

Cencon® 5 Getting Started Guide

Prepare System for Operation

Before Creating Users and Activating Locks...

Depending on how you are using Cencon, certain information must be predefined so that it is available for selection during the process of creating users and activating locks. This data includes:

- **Bank Branches:** If you are going to create any Bank users or locks, you must first define the Bank Branches to which they will be assigned using the Bank Branch Report.
- **User Types:** If you want to assign a customized authorization role to any new users, you need to create the new user roles before creating the users. See User Authorization for more information.
- **Region Definitions:** If you are going to use Region control, you should first define your regions using the Region Report.
- **Customer ID:** If you are going to assign a Customer ID to your users or locks, you should first define the Customers using the Customer Report.

For New Install of Cencon

The following activities must be performed to prepare the Cencon for operation.

1. Add appropriate FLM, Route, and Bank users
2. Activate Locks

Please refer to the Cencon Reference Manual (Document # 2071.127), found on the Cencon® 5 Software install source (DVD, USB drive, or download), for detailed instruction.

The Cencon Reference Manual

The Cencon® 5 Reference Manual is best viewed in your web browser as a normal web page. It can be accessed by pressing the Help button on the main Cencon Window.

You can also open the Cencon® 5 Reference Manual by selecting Start → All Programs → Cencon® 5 → Cencon® 5 Reference Manual.

To print the current page of the manual, select File → Print on your web browser.

To print the entire Cencon® 5 Reference Manual use the PDF version of the manual from the Kaba Mas web site, www.kaba-mas.com:

1. Obtain a list of available Cencon reference manuals from the Kaba Mas web site, www.kaba-mas.com, using one of these methods:
 - Enter the text **Cencon Reference Manual** in the Search text box and click the Search button, **or**
 - From the available menu strip choices, select Kaba Brand → Documentation → Installation/Operation. Then select the Category of **Cencon Locking System**.
2. From the generated list select the desired PDF version of the Cencon Reference Manual and download it to your system.
3. When opened, the saved PDF file will be displayed in Adobe Acrobat reader.
4. Select the **Print** icon from the Adobe Acrobat Reader tool bar.

Note

If your printer has duplexing capability, you may want to select that as a Print option for the Cencon Reference

To print the entire Getting Started Guide:

1. If your install source is a DVD, insert the Cencon® 5 Install DVD into the appropriate drive of the PC. Your install source can be a DVD, USB drive, or download.
2. Browse to the **Documents\Getting Started Guide\Pdf** directory.
3. Double click on the PDF version of the Getting Started Guide. The PDF version of the Getting Started Guide will be displayed in Adobe Acrobat reader.
4. Select the **Print** icon from the Adobe Acrobat Reader tool bar.

Note

If your printer has duplexing capability, you may want to select that as a Print option for the Getting Started Guide.

Remove Previous Cencon and CenBank Software

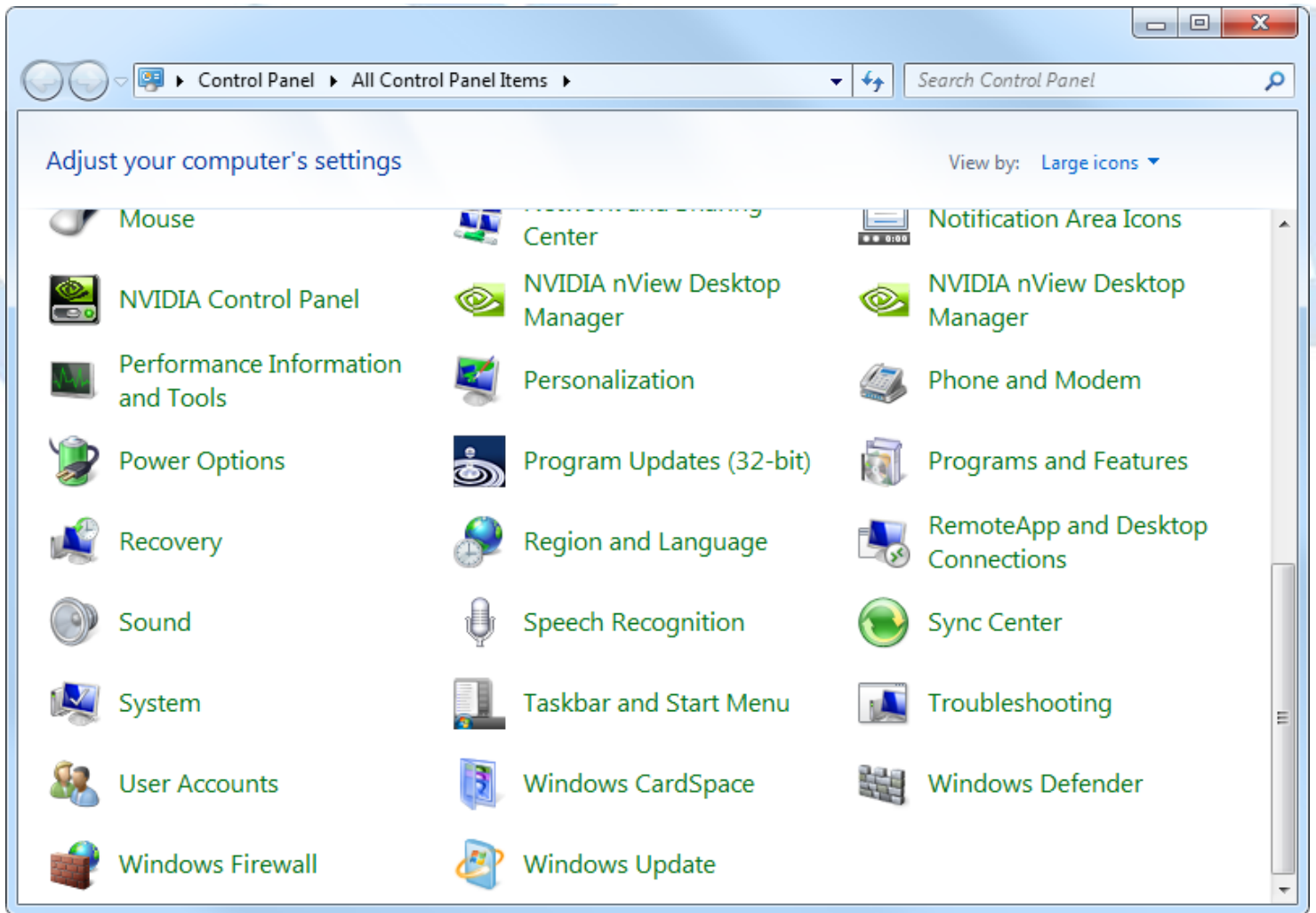
If you had a previous Windows based version of the Cencon software installed and have now upgraded to Cencon® 5, you should at some point remove the old version of the software. It is recommended that you ensure the upgrade to the new Cencon® 5 software completed successfully and that all old data has been brought successfully into the new database before you remove the old software.

Note

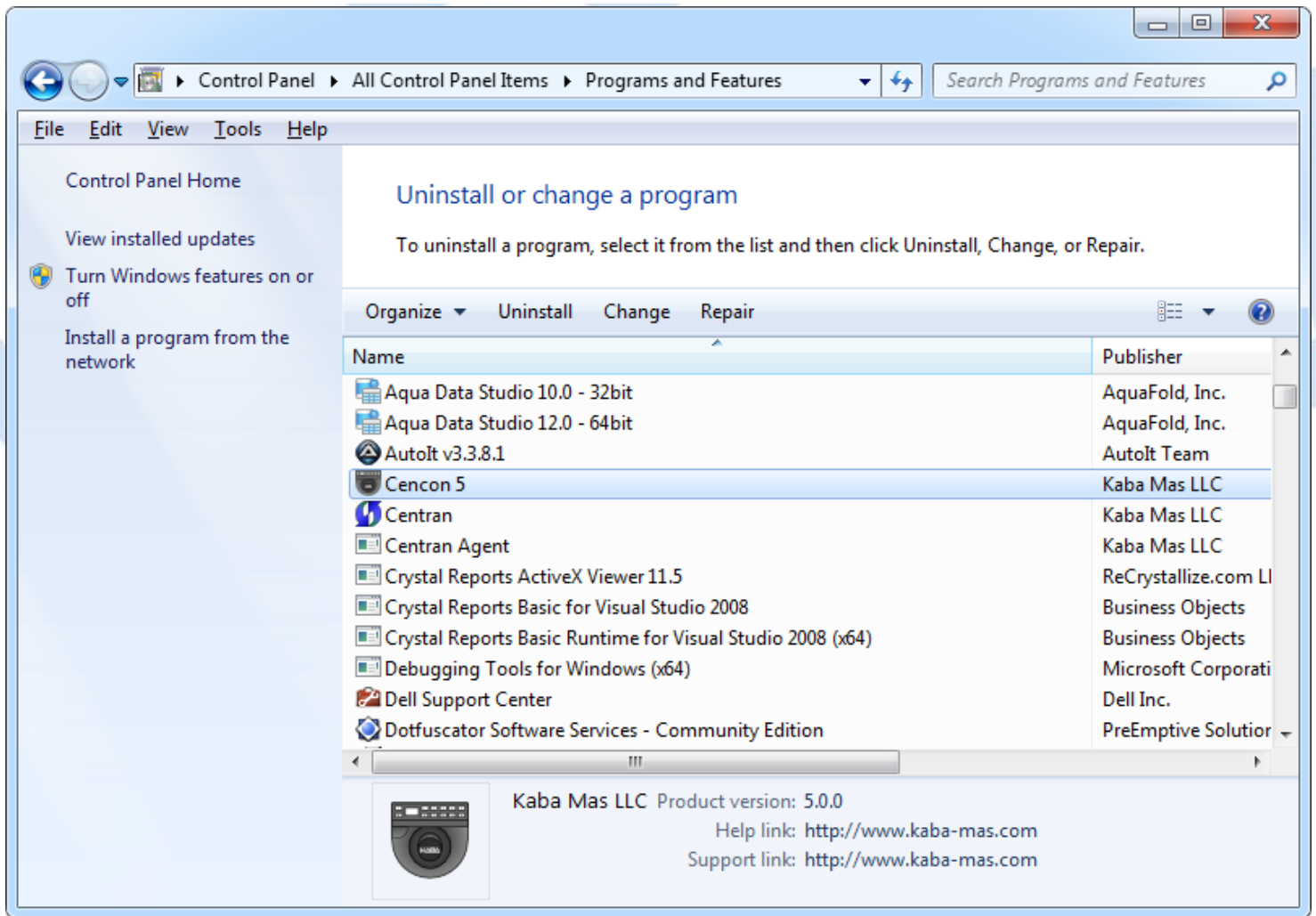
Removal of the previously installed program will not affect any currently existing data files.

Complete the following steps to remove the previous Cencon programs (this example shows the removal of Cencon 3.0/3.1):

1. Select the **Start** icon in the lower left of the Windows screen.
2. Next select the **Control Panel** icon. The Control Panel Window is displayed:



3. Click on the **Programs and Features** icon. The **Programs and Features** window is displayed:

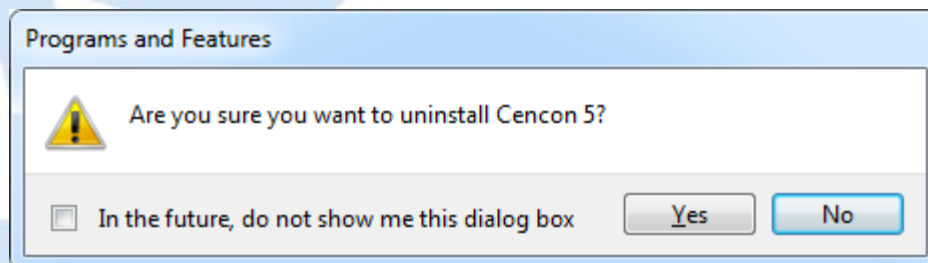


4. Select **Cencon 5** in the program list and click on **Uninstall** button on the tool bar.

Note

Removing the currently installed Cencon application and all of its components will not affect any currently existing database information.

A confirmation dialog will appear:



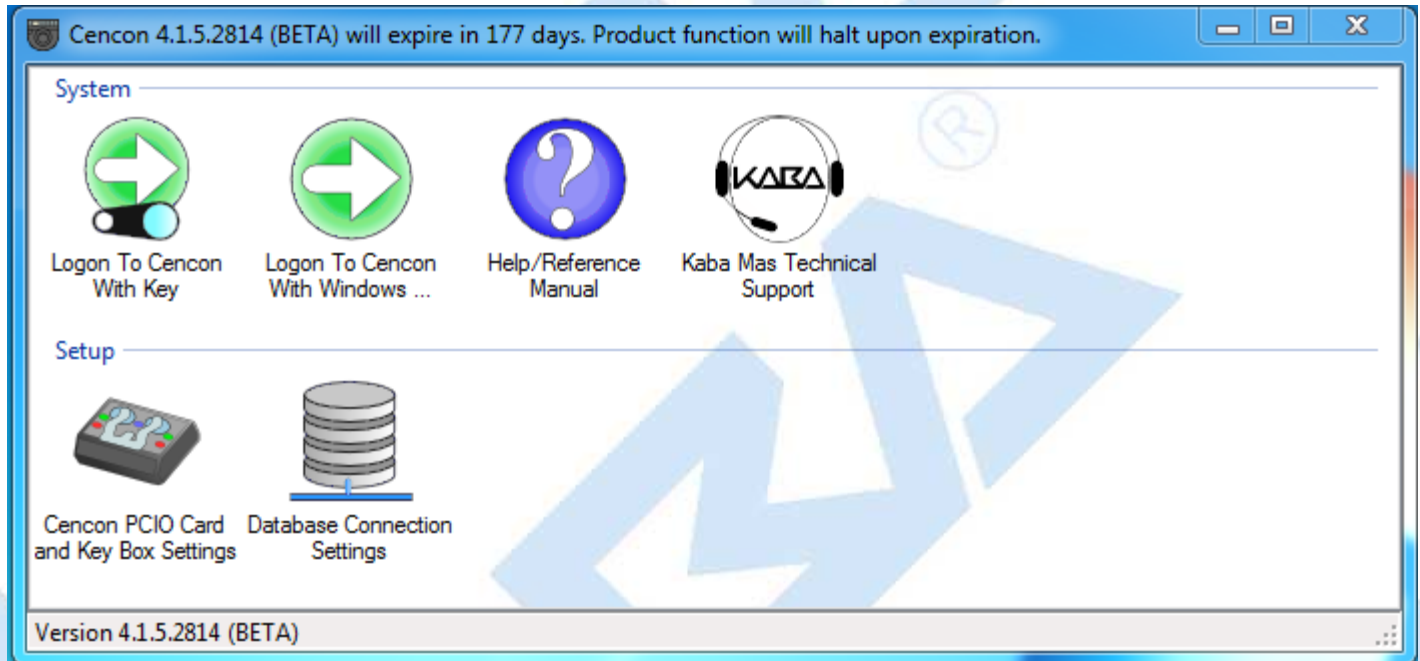
5. Click on the **Yes** button to continue.
6. The Cencon[®] 5 software program will be removed from the list.

Cencon® 5 Getting Started Guide

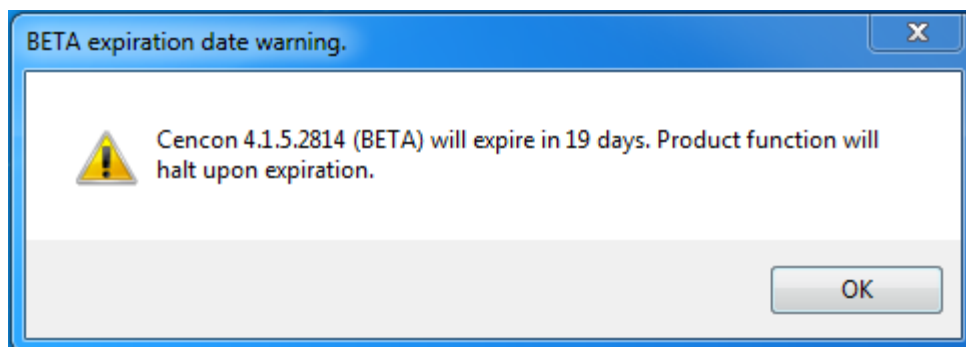
Appendix A - Beta Expiration

The beta versions of Cencon will be assigned an initial expiration date of 180 days past the date of creation by Kaba Mas. When the expiration date is reached Cencon will cease functioning.

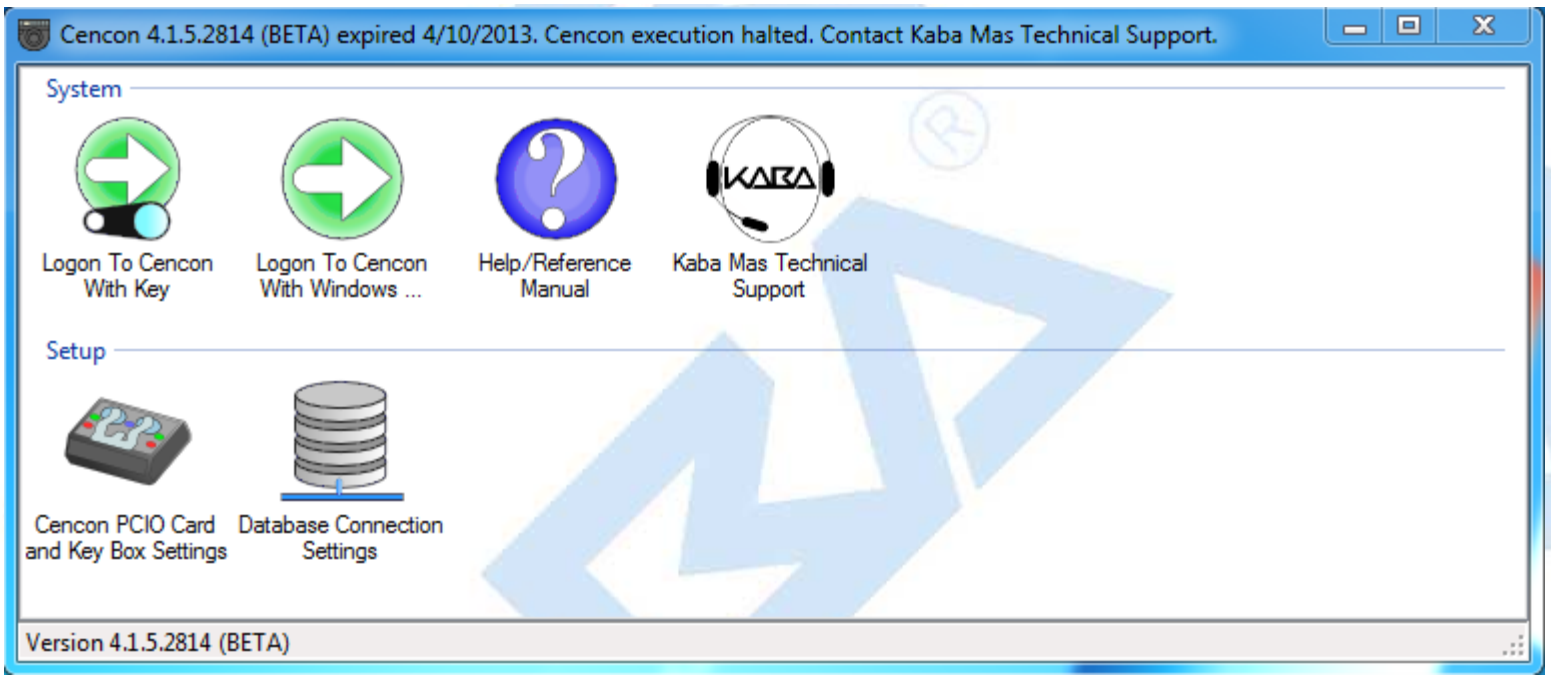
The customer will be notified of the number of days left until Cencon expiration via the Cencon window title. For example



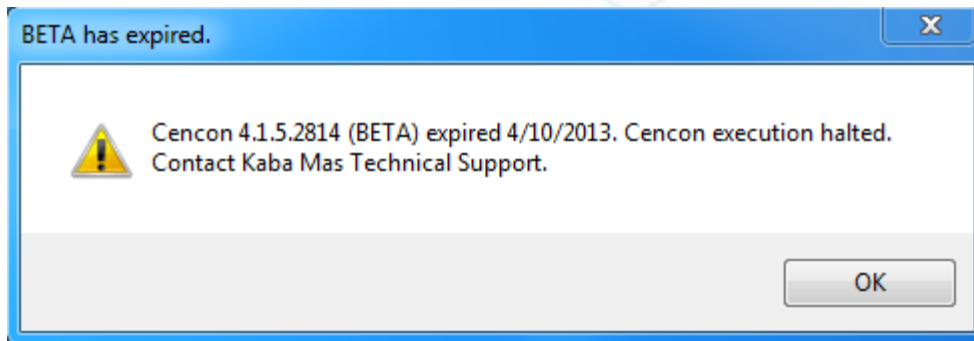
When Cencon is within 60 days of the expiration date, popup messages will be issued when the user logs into Cencon. For example



When Cencon has reached the expiration date the Cencon window title will state that the beta has expired. For example



When Cencon has reached the expiration date Cencon logon will be prohibited. When the user attempts to logon to Cencon a popup message will be issued. For example



In future Beta releases the customer will be provided with the ability to reset the Cencon expiration date as well as the date on which the warnings begin with help from Kaba Mas Technical Support.

Cencon[®] 5 Getting Started Guide

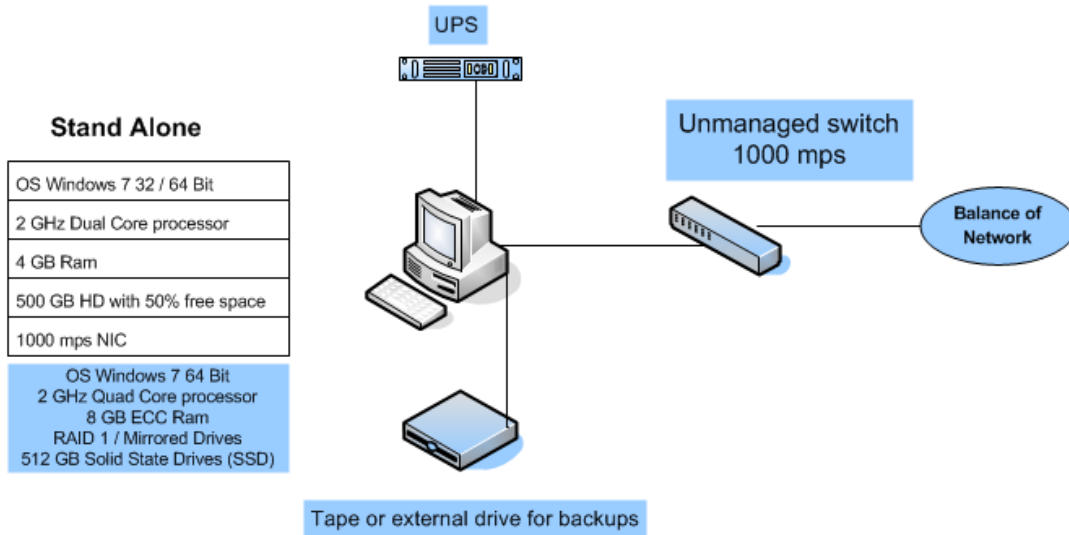
Appendix B - Recommended Practices: Express

SQL 2008 R2 Express Restrictions	High Availability Options	# of Clients	# of Cencon Locks	# of CenTran Transaction Hourly
1 CPU 1 GB Ram Use Limit 10 GB Database Size	None (No Database Mirroring, No Clustering, No Fast Recovery)	0-3	1-1000	1 -50

This specification provides information concerning network infrastructure, installation, and configuration of Microsoft SQL Server (herein, also "MS SQL" or "SQL") software.

Microsoft SQL Server 2008 R2 Express (Or Higher)

Stand Alone



Values stated are minimum requirements

Recommended Feature

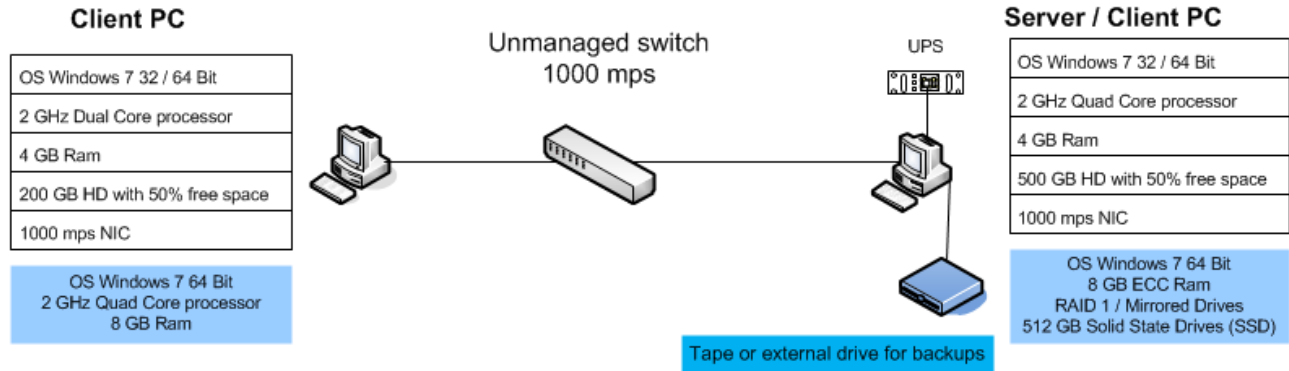
Microsoft SQL Server 2008 R2 Express (Or Higher)

LOCAL AREA NETWORK

*With No Active Directory use SQL Authentication

*Maximum of four machines can be networked with SQL Express

*Use IP Address to connect the ODBC connection



Values stated are minimum requirements

Recommended Feature

Microsoft SQL Server 2008 R2 Express (Or Higher)

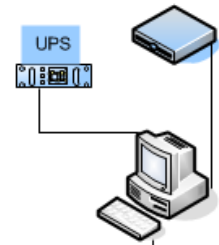
LOCAL AREA NETWORK

Servers must be identical

Backup / Test Server (Scripts, Patches, Updates)

OS Windows 7 64 Bit
2 GHz Quad Core processor
8 GB Ram
500 GB HD with 50% free space
1000 mps NIC

Tape or external drive for backups

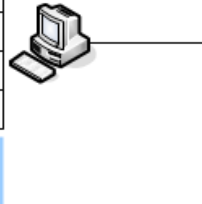


8 GB ECC Ram
RAID 1 / Mirrored Drives
512 GB Solid State Drives (SSD)

Client PC

OS Windows 7 32 / 64 Bit
2 GHz Dual Core processor
4 GB Ram
200 GB HD with 50% free space
1000 mps NIC

OS Windows 7 64 Bit
2 GHz Quad Core processor
8 GB Ram



Unmanaged switch
1000 mps

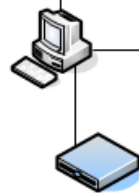


Balance of
Network

Server / Client PC

OS Windows 7 64 Bit
2 GHz Quad Core processor
8 GB Ram
500 GB HD with 50% free space
1000 mps NIC

8 GB ECC Ram
RAID 1 / Mirrored Drives
512 GB Solid State Drives (SSD)



Tape or external drive for backups

Values stated are minimum requirements
Recommended Feature

SQL 2008 R2 Express Server Installation

- Choose between case-sensitive and (default) non-case-sensitive collation for the SQL 2008 R2 database Cencon is to use.
- Transaction log backup path must be set to allow point-in-time recovery.
- Size the transaction logs to start with a file size of at least 25% of the database size.
- Prior to performing an update of a previous Cencon database using the CenconDBSetupUtility, first increase the size of the transaction logs and the database file size by at least 50% for best performance.
- Monitor the log transaction rates weekly and change size up or down depending on how quickly the logs are getting filled.
- Review system performance weekly and adjust accordingly.

Alerts

- Create performance condition alerts.
- Alerts must be used to notify the System Administrator and the Cencon Manager. Example: When SQL has hang times, high server use, locks, etc.
- Use Advice driven responses (automated) for alerts through scripting when available. Customize the notifications to assist with faster corrections.

Backup and Recovery

- Always have more than one backup and recovery solution. Note: Magnetic media is volatile. DVD/CD's can be damaged or broken.
- Make a complete back up, incremental backup, and backup the transaction logs periodically.
- Use SQL scripts or third party vendor to backup complete, incremental, exported database and transaction logs regularly.

Test Script or Test Recovery

- Periodically test your disaster recovery procedure using the complete, incremental, exported database and transaction log backups.
- Backup database and use with the test server to implement and test any patches for Kaba Mas Software, OS, SQL, or scripts prior to implementation on the live instance of SQL. Never test any patch or script on the live database.
- Any scripts run against the database must be sent to Kaba Mas prior to employing.
- Kaba Mas must test all OS or SQL patches you intend to implement prior to implementation. This may take Kaba Mas some time to complete. We will provide lead times with your request.

Security

- **Physical**
 - Do not leave passwords in the open.
 - Do not leave Cencon logon keys in the reader.
 - Do not write passwords on the key.
 - If the system is not in use or is unattended, lock the terminal.
 - Use BIOS and screensaver passwords to guard against unauthorized access.
- **Network**
 - Insider Hacks are the least preventable and the most destructive types.
 - Have your HR department inform you before an employee is terminated.
 - Set policies to constrain bandwidth availability for suspicious traffic. Port 80 for example is used for HTTP, Web surfing, streaming video, peer-to-peer sharing, music downloads, etc.
- **System**
 - Change password on all default accounts.
 - Remove guest and other non-used accounts.
 - Give specific access to SQL, transaction logs, and backups files, as needed.

- o Make certain no hierarchical group or user policies are allowed access to SQL, transaction logs, and backup files.
- o Limit or remove access to FTP.
- o Review network IP protocols.
- o All backups, exports, import files & scripts are possible sources of passwords/user names. Secure access to them.
- o Learn about your USERS. If your users are working hours are between 9:00 AM and 5:00 PM, then any access at nights or weekends is suspect. Monitor and set alarms for this access.
- **SQL**
 - o Change password on all default accounts.
 - o Lock or delete all non-used default accounts.
 - o Set policy in SQL to only allow 8 attempts to login before lockout.
 - o All backups, exports, import files & scripts are possible sources of passwords/user names. Secure the access to them.
 - o Check your alert logs REGULARLY for user access failures or unusual access errors.
 - o Always test scripts on a test server, never the live database.
 - o Monitor or set limits on very large queries. Hackers generally search whole databases.

Wide Area Network (WAN)

- Not recommended

Best Practices

- **Operating Environment**
 - o Check the hardware manufacturers web sites for driver and BIOS updates
 - o All Cencon client machines must be on the same subnet.
 - o Add an Lmhosts file to all Cencon 5 and CenTran 5 machines to assist WINS resolution.
 - o Add a hosts file to all Cencon 5 and CenTran 5 machines to assist DNS resolution.
 - o Time and date must be synchronized between the clients and the server.
 - o Do not share a printer. Use network printer or print server, or use a series of local printers.
 - o Do not allow peer-to-peer file sharing between clients.
 - o Check the disk drives frequently and add or reclaim storage space as necessary.
- **Network**
 - o 1000 Mbps connectivity must exist throughout the Cencon segment of the network.
 - o Use a switch or hub connecting the Cencon 5 and CenTran 5 clients to the server.

Driver signing for Windows

Device drivers and operating system files included with Windows have a Microsoft digital signature. The digital signature indicates that a particular driver or file has met a certain level of testing and that it was not altered or overwritten by another program's installation process. Device drivers for hardware products that have the Designed for Microsoft Windows 7 or Designed for

Microsoft Windows Server 2008 R2 logos have a digital signature from Microsoft which indicates that the product was tested for compatibility with Windows and has not been altered since testing.

Depending on how your administrator configured your computer, Windows either ignores device drivers that are not digitally signed, displays a warning when it detects device drivers that are not digitally signed (the default behavior), or prevents you from installing device drivers that do not have digital signatures.

Windows includes the following features to ensure that your device drivers and system files remain in their original, digitally-signed state:

- Windows File Protection
- System File Checker
- File Signature Verification

The Drivers for the Cencon USB KeyBox are digitally signed and have been certified by Kaba Mas as compatible with Microsoft Windows 7 operating system and the hardware appearing on the Microsoft HCL.

HCL

The Microsoft Windows Catalog (also known as the hardware compatibility list or as the HCL) is a compilation of computers and computer hardware that have been extensively tested with Windows for stability and compatibility. Microsoft Product Support Services (PSS) uses the catalog to determine whether particular hardware is supported for use with the Windows operating system.

Before you install Windows on a computer, check the Windows Catalog to determine whether the computer is certified by Microsoft as Windows-compliant.

Hardware not found on the Windows HCL is unsupported. However, Kaba Mas will aid in troubleshooting these issues, if the customer requests it. Kaba Mas does not guarantee that a resolution will be found for non-HCL equipment. Applicable Professional support rates will apply for troubleshooting assistance.

BIOS

Please do not update the BIOS if your system is running fine.

Please do not update the BIOS if the BIOS patch doesn't pertain to your current problem.

Unsuccessful BIOS flash may cause the system to fail to boot up. Kaba Mas is not responsible for any BIOS flash failure.

PURCHASE PROCESS

Once you have reviewed the Cencon 5 Product Bulletin, Release Information & New Features, and the appropriate Minimum Requirements document for either Microsoft SQL 2008 R2 Enterprise, Microsoft SQL 2008 R2 Standard or Microsoft SQL 2008 R2 Express, please follow these steps to place your order:

1. Complete the Customer Information Form and submit.
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For information and scheduling of Cencon training, please email the Cencon Product Manager: Benjamin Boggs (Benjamin.Boggs@kml.kaba.com)

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Document Number 2098.0513 Rev. E 11/13 Cencon® 5 Getting Started Guide

Cencon[®] 5 Getting Started Guide

Appendix C - Recommended Practices: Standard

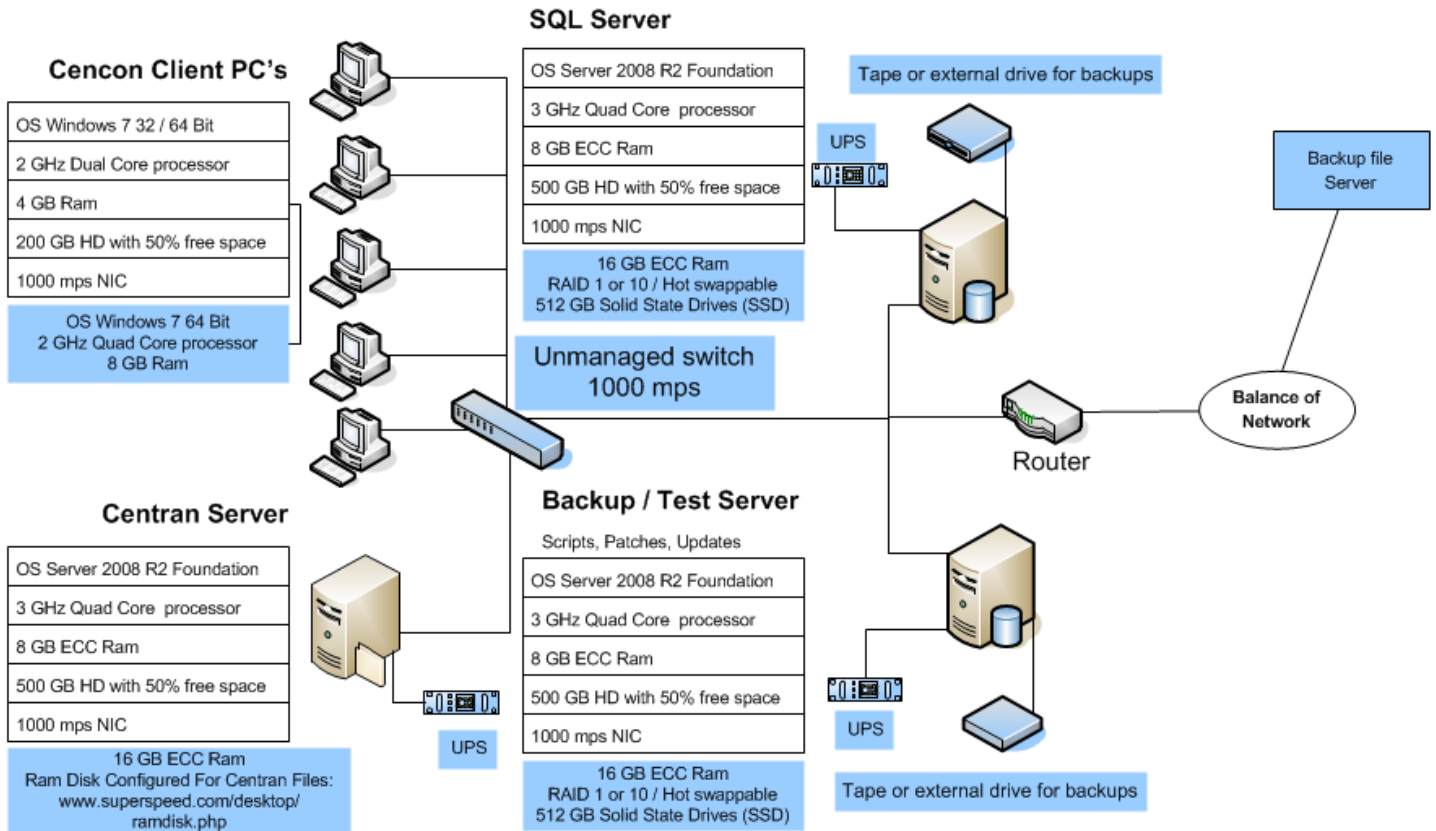
SQL 2008 R2 Standard Restrictions	High Availability Options	# of Clients	# of Cencon Locks	# of CenTran Transaction Hourly
4 CPU 64 GB Ram Use Limit 524 PB Database Size	Limited Database Mirroring, 2 node Failover Clustering	4 - 10	10,000 - 25,000	50 - 2000

This specification provides information concerning network infrastructure, installation, and configuration of Microsoft SQL Server (herein, also "MS SQL" or "SQL") software.

Microsoft SQL Server 2008 R2 Standard (Or Higher)

LOCAL AREA NETWORK

Servers must be identical



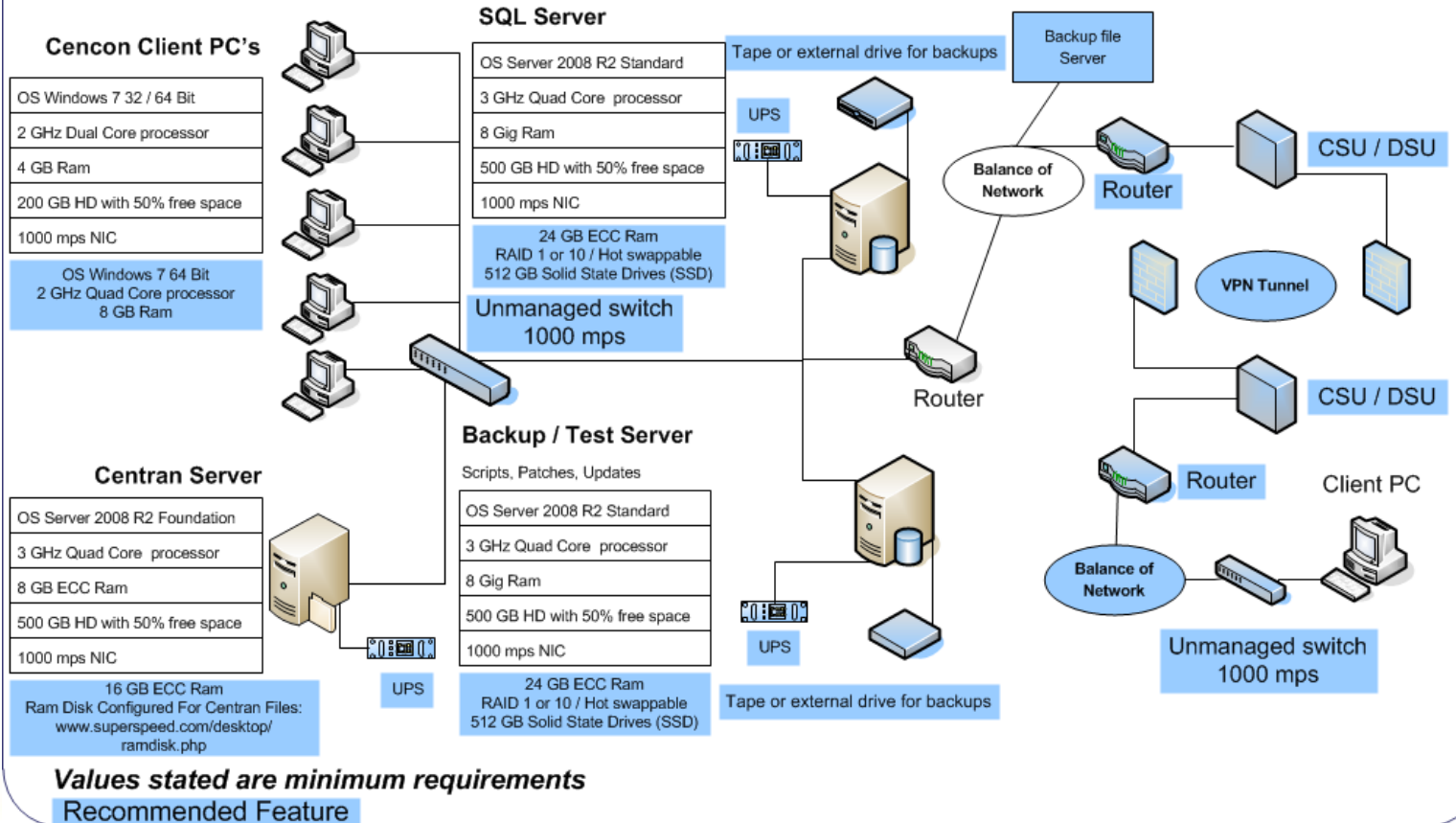
Values stated are minimum requirements

Recommended Feature

Microsoft SQL Server 2008 R2 Standard (Or Higher)

WIDE AREA NETWORK

Servers must be identical



SQL 2008 R2 Standard Server Installation

- Choose between case-sensitive and (default) non-case-sensitive collation for the SQL 2008 R2 database Cencon is to use.
- Transaction log backup path must be set to allow point-in-time recovery.
- Size the transaction logs to start with a file size of at least 25% of the database size.
- Prior to performing an update of a previous Cencon database using the CenconDBSetupUtility, first increase the size of the transaction logs and the database file size by at least 50% for best performance.
- Monitor the log transaction rates weekly and change size up or down depending on how quickly the logs are getting filled.
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Alerts

- Create performance condition alerts.
- Alerts must be used to notify the System Administrator and the Cencon Manager. Example: When SQL has hang times, high

server use, locks, etc.

- Use Advice driven responses (automated) for alerts through scripting when available. Customize the notifications to assist with faster corrections.

Backup and Recovery

- Always have more than one backup and recovery solution. Note: Magnetic media is volatile. DVD/CD's can be damaged or broken.
- Make a complete back up, incremental backup, and backup the transaction logs periodically.
- Use SQL scripts or third party vendor to backup complete, incremental, exported database and transaction logs regularly.

Test Script or Test Recovery

- Periodically test your disaster recovery procedure using the complete, incremental, exported database and transaction log backups.
- Backup database and use with the test server to implement and test any patches for Kaba Mas Software, OS, SQL, or scripts prior to implementation on the live instance of SQL. Never test any patch or script on the live database.
- Any scripts run against the database must be sent to Kaba Mas prior to employing.
- Kaba Mas must test all OS or SQL patches you intend to implement prior to implementation. This may take Kaba Mas some time to complete. We will provide lead times with your request.

Security

- **Physical**
 - Do not leave passwords in the open.
 - Do not leave Cencon logon keys in the reader.
 - Do not write passwords on the key.
 - If the system is not in use or is unattended, lock the terminal.
 - Use BIOS and screensaver passwords to guard against unauthorized access.
- **Network**
 - Insider Hacks are the least preventable and the most destructive types.
 - Have your HR department inform you before an employee is terminated.
 - Set policies to constrain bandwidth availability for suspicious traffic. Port 80 for example is used for HTTP, Web surfing, streaming video, peer-to-peer sharing, music downloads, etc.
- **System**
 - Change password on all default accounts.
 - Remove guest and other non-used accounts.
 - Give specific access to SQL, transaction logs, and backups files, as needed.
 - Make certain no hierarchical group or user policies are allowed access to SQL, transaction logs, and backup files.
 - Limit or remove access to FTP.

- Review network IP protocols.
- All backups, exports, import files & scripts are possible sources of passwords/user names. Secure access to them.
- Learn about your USERS. If your users are working hours are between 9:00 AM and 5:00 PM, then any access at nights or weekends is suspect. Monitor and set alarms for this access.
- **SQL**
 - Change password on all default accounts.
 - Lock or delete all non-used default accounts.
 - Set policy in SQL to only allow 8 attempts to login before lockout.
 - All backups, exports, import files & scripts are possible sources of passwords/user names. Secure the access to them.
 - Check your alert logs REGULARLY for user access failures or unusual access errors.
 - Always test scripts on a test server, never the live database.
 - Monitor or set limits on very large queries. Hackers generally search whole databases.

Wide Area Network (WAN)

- Use SQL recommended connection requirements.

Best Practices

- **Operating Environment**
 - Check the hardware manufacturers web sites for driver and BIOS updates
 - All Cencon client machines must be on the same subnet.
 - Add an Lmhosts file to all Cencon 5 and CenTran 5 machines to assist WINS resolution.
 - Add a hosts file to all Cencon 5 and CenTran 5 machines to assist DNS resolution.
 - Time and date must be synchronized between the clients and the server.
 - Do not share a printer. Use network printer or print server, or use a series of local printers.
 - Do not allow peer-to-peer file sharing between clients.
 - Check the disk drives frequently and add or reclaim storage space as necessary.
- **Network**
 - 1000 Mbps connectivity must exist throughout the Cencon segment of the network.
 - Use a switch or hub connecting the Cencon 5 and CenTran 5 clients to the server.

Driver signing for Windows

Device drivers and operating system files included with Windows have a Microsoft digital signature. The digital signature indicates that a particular driver or file has met a certain level of testing and that it was not altered or overwritten by another program's installation process. Device drivers for hardware products that have the Designed for Microsoft Windows 7 or Designed for Microsoft Windows Server 2008 R2 logos have a digital signature from Microsoft which indicates that the product was tested for compatibility with Windows and has not been altered since testing.

Depending on how your administrator configured your computer, Windows either ignores device drivers that are not digitally signed, displays a warning when it detects device drivers that are not digitally signed (the default behavior), or prevents you from installing device drivers that do not have digital signatures.

Windows includes the following features to ensure that your device drivers and system files remain in their original, digitally-signed state:

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- System File Checker
- File Signature Verification

The Drivers for the Cencon USB KeyBox are digitally signed and have been certified by Kaba Mas as compatible with Microsoft Windows 7 operating system and the hardware appearing on the Microsoft HCL.

HCL

The Microsoft Windows Catalog (also known as the hardware compatibility list or as the HCL) is a compilation of computers and computer hardware that have been extensively tested with Windows for stability and compatibility. Microsoft Product Support Services (PSS) uses the catalog to determine whether particular hardware is supported for use with the Windows operating system.

Before you install Windows on a computer, check the Windows Catalog to determine whether the computer is certified by Microsoft as Windows-compliant.

Hardware not found on the Windows HCL is unsupported. However, Kaba Mas will aid in troubleshooting these issues, if the customer requests it. Kaba Mas does not guarantee that a resolution will be found for non-HCL equipment. Applicable Professional support rates will apply for troubleshooting assistance.

BIOS

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Please do not update the BIOS if the BIOS patch doesn't pertain to your current problem.

Unsuccessful BIOS flash may cause the system to fail to boot up. Kaba Mas is not responsible for any BIOS flash failure.

PURCHASE PROCESS

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Cencon[®] 5 Getting Started Guide

Appendix D - Recommended Practices: Enterprise

SQL 2008 R2 Enterprise Restrictions	High Availability Options	# of Clients	# of Cencon Locks	# of CenTran Transaction Hourly
8 CPU 2 TB Ram Use Limit 524 PB Database Size	Database Mirroring, 16 Node Failover Clustering, Database Snapshots, Database Available during Crash Recovery/Mirroring Failover	11 - Over	25,000 - Over	2000 - Over

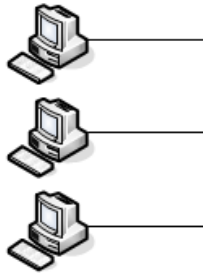
This specification provides information concerning network infrastructure, installation, and configuration of Microsoft SQL Server (herein, also "MS SQL" or "SQL") software.

Microsoft SQL Server 2008 R2 Enterprise (Or Higher)

LOCAL AREA NETWORK

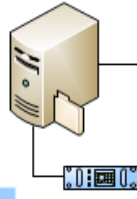
Cencon Client PC's

OS Windows 7 32 / 64 Bit
2 GHz Dual Core processor
4 GB Ram
200 GB HD with 50% free
1000 mps NIC
OS Windows 7 64 Bit
2 GHz Quad Core processor
8 GB Ram



Centran Server

OS Server 2008 R2 Foundation
3 GHz 6 Core processor (or better)
8 GB ECC Ram
500 GB HD with 50% free space
Dual 1000 mps NIC
16 GB ECC Ram (or better)
Ram Disk Configured For Centran Files: www.superspeed.com/desktop/ramdisk.php



UPS

Test Server

Scripts, Patches, Updates

OS Server 2008 R2 Standard
3 GHz 6 Core processor (or better)
16 GB ECC Ram
500 GB HD with 50% free space
Dual 1000 mps NIC
RAID 1 or 10 / Hot swappable
32 GB ECC Ram (or better)
512 GB Solid State Drives (SSD)



UPS

Servers must be identical

Primary Server Active Clustering

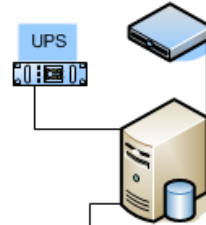
OS Server 2008 R2 Standard
3 GHz 6 Core processor (or better)
16 GB ECC Ram
500 GB HD with 50% free space
Dual 1000 mps NIC
RAID 1 or 10 / Hot swappable
32 GB ECC Ram (or better)
512 GB Solid State Drives (SSD)

Unmanaged switch 1000 mps
Optional redundant switch

Secondary Server Passive Clustering

OS Server 2008 R2 Standard
3 GHz 6 Core processor (or better)
16 GB ECC Ram
500 GB HD with 50% free space
Dual 1000 mps NIC
RAID 1 or 10 / Hot swappable
32 GB ECC Ram
512 GB Solid State Drives (SSD)

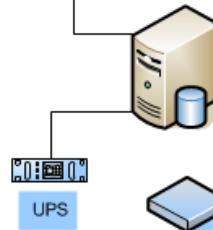
Tape or external drive for backups



UPS

Router

Balance of Network



UPS

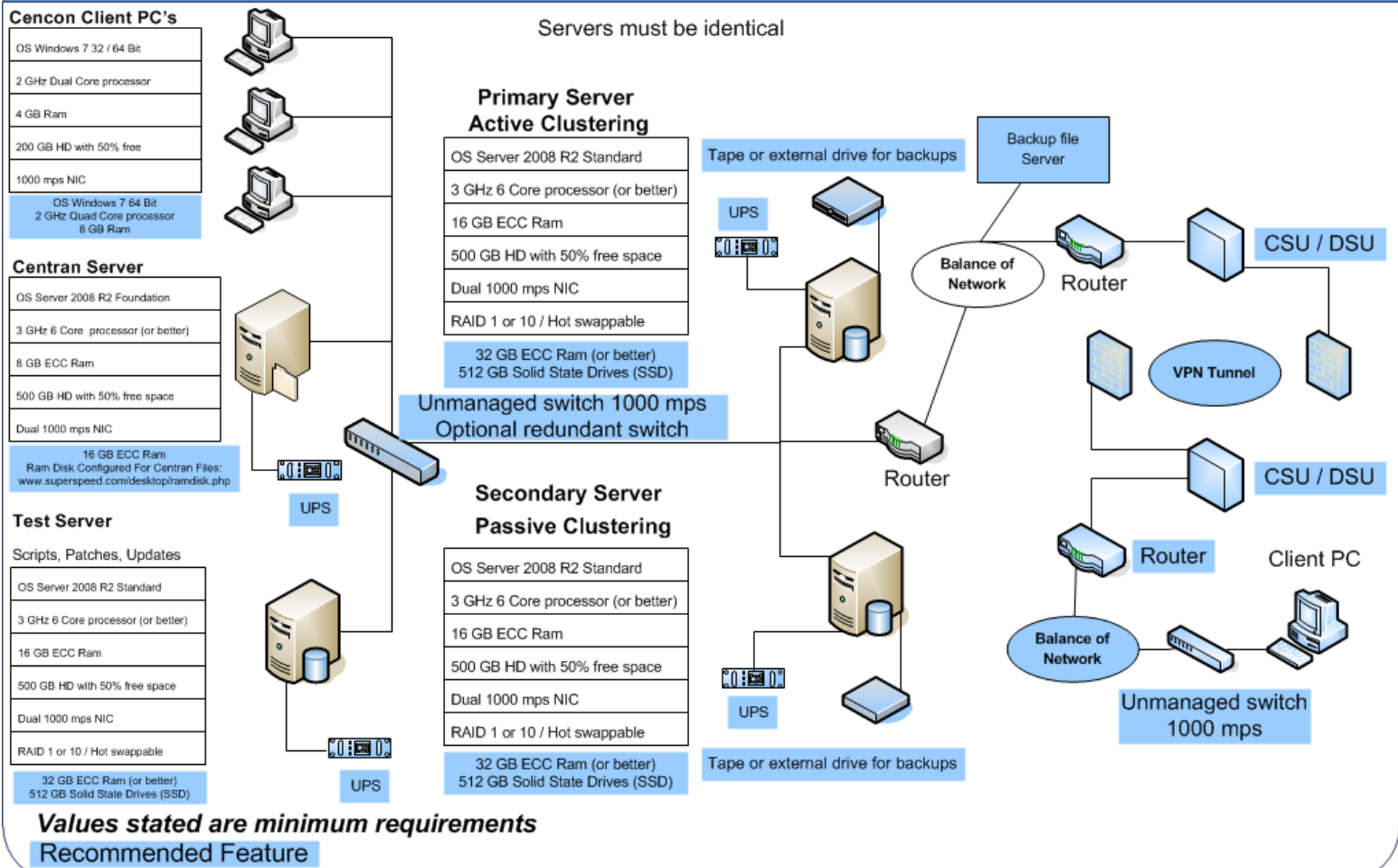
Tape or external drive for backups

Backup file Server

Values stated are minimum requirements
Recommended Feature

Microsoft SQL Server 2008 R2 Enterprise (Or Higher)

WIDE AREA NETWORK



SQL 2008 R2 Express Server Installation

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