LockView® Keyless Entry 5

DATABASE & NETWORK CONFIGURATION & INSTALL MANUAL

Snap-on®

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Database & Network Configuration & Install Manual

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The Table of Contents contains live links. Click on any section, and the corresponding page will load.

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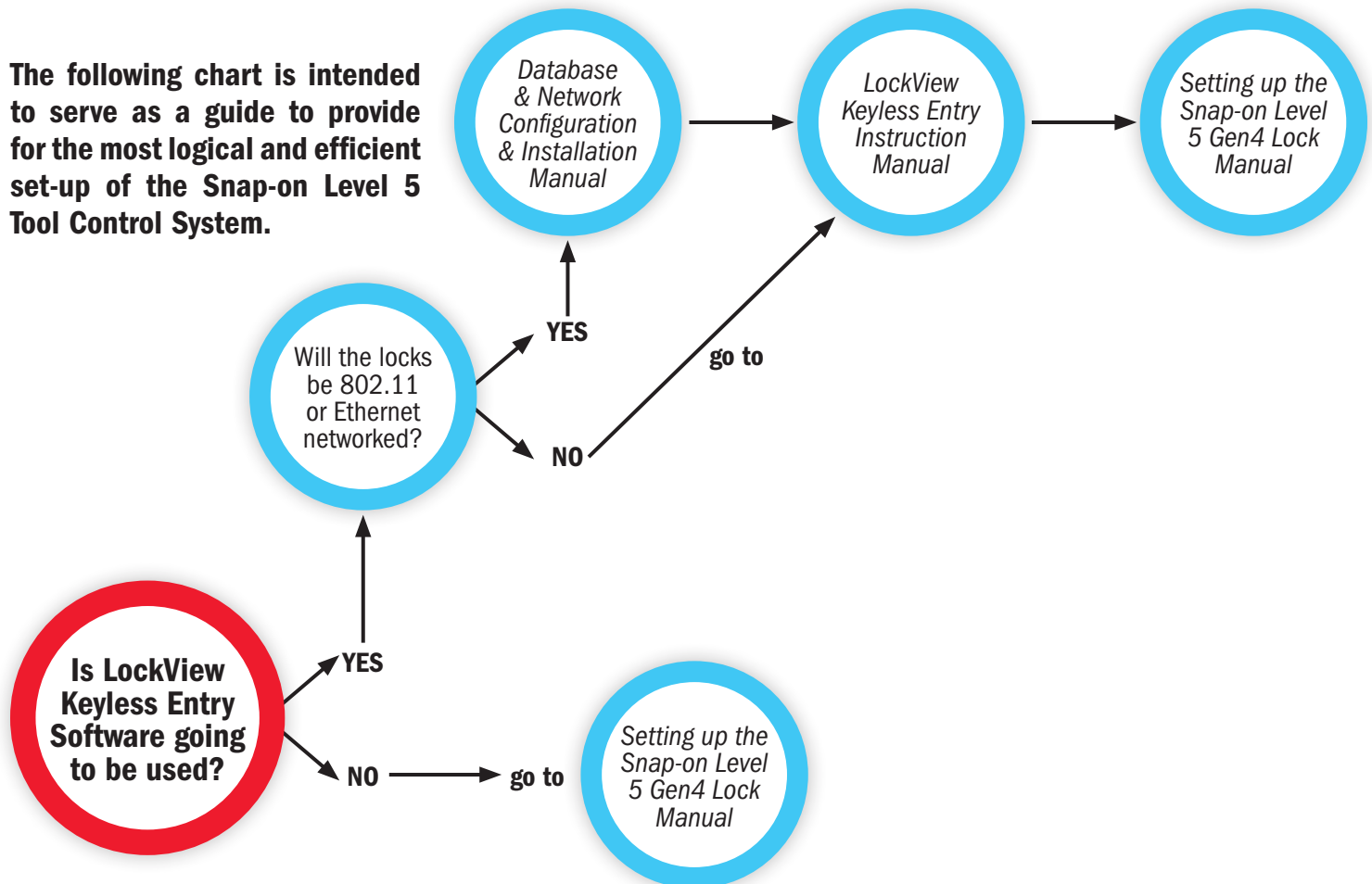*Other manuals available as separate pdfs:*

INTRODUCTION

An authorized Operator of LockView® can create a database of users and locks on a local or networked computer. Each user in this computer's database is assigned to a slot in each lock to which they have access. A lock's internal memory is divided into 999 slots that store user information thereby giving each lock a maximum of 999 users. That is, 999 individuals are capable of opening the toolbox.

The computer on which LockView® is loaded has the ability to connect to locks and update the lock's memory to correspond with its own database. It is able to gather and manipulate a lock's audit trail, or past operation log. Audit trail information contains the lock's name, the name of the user attempting to gain access, the credential used, if access was granted or denied, and the date and time of each interaction.

LockView Keyless Entry 5 works with LockServ to communicate with locks. LockServ has the ability to communicate with multiple locks simultaneously over a network, thereby eliminating the need for the Operator to visit each lock to update its database, or download audit trails.

Alternately, LockServ can communicate with locks using a USB cable if network hardware is not available.

The following chart is intended to serve as a guide to provide for the most logical and efficient set-up of the Snap-on Level 5 Tool Control System.

Database & Network Configuration & Installation Manual → *LockView Keyless Entry Instruction Manual* → *Setting up the Snap-on Level 5 Gen4 Lock Manual*

Will the locks be 802.11 or Ethernet networked?

YES / **NO**

go to

Is LockView Keyless Entry Software going to be used?

YES

NO → **go to** → *Setting up the Snap-on Level 5 Gen4 Lock Manual*

INSTALLATION REQUIREMENTS

Networked Installations

Minimum system requirements:

Vista, 7, 8, 8.1, 10, Server 2008/2012 and R2 versions.

4GB RAM - Processor 2.0 GHz or higher. (8GB recommended)

4GB Hard drive space

SQL Server Standard, Enterprise, or SQL Express 2008/2012/2014 and R2 versions.

If installing LockView on the Microsoft SQL Server please follow Microsoft SQL's minimum requirements

ODBC connection required to Server

Local Administrator Rights are required to install and register the software.

.Net 4.0 Client Framework

Minimum monitor resolution: 1024x768

Signed 32 bit and 64 bit WHQL drivers.

Supports both 32 and 64 bit Operating Systems

Compatible with VMWare

Network System Definition

LockView software and eLock are "on-site" devices that work through the facility's internal network

Connect One standard 802.11 b/g wireless module or Lantronix 10/100 mbps Ethernet Module.

RedPine wireless modules will be used in future products which will support 802.11 b/g/n/a with 2.4ghz and 5ghz antenna's.

Wireless security protocols supported:

WEP 64-key

WEP 128-key

WPA-PSK (TKIP)

WPA2-PSK (AES)

WPA-TKIP Enterprise*

WPA-AES Enterprise*

WPA-TKIP Enterprise* (skip RADIUS cert verification)

WPA-AES Enterprise* (skip RADIUS cert verification)

*EAP-TLS or PEAP-MSCHAPv2

Anticipated bandwidth traffic:

In typical applications, with a 25 event audit trail and 4 user updates, the total transmission size would be approximately 20 kb (equal to a small email).

Frequency of check-in is user defined. Factory default is set at twice daily (or every 12 hours).

IP address Information:

eLocks – DHCP or static IP address

Server – static IP address

Non-Networked Installations

LockView will use an Access DB by default.

.NET 4.0 or higher is required.

Minimum monitor resolution: 1024x768

Optional – SQL Server 2008 or better (Express versions ok). Follow LockView Client Install (in table above) for non-networked installs.

Common Install for Non-Networked (Stand-Alone) Installations

- Laptop with LockView installed.
- When LockView is installed it automatically creates an Access database
- The USB cable must be attached to a laptop and to the lock to make changes to lock or database.
- Backup of Access DB is HIGHLY RECOMMENDED.

INSTALLATION REQUIREMENTS *continued*

If SQL is used, refer to the following 'Common Install for Networked Installations' list.

Common Install for Networked Installations:
- Server/PC with SQL Server and setup to be the LockView Server and a laptop with LockView Client Installed.
- Backup of SQL Server is HIGHLY RECOMMENDED.

Note:
- Network module of lock must be programmed to point to the IP address of the computer with LockView Server (LockServ) installed.
- LockView Server computer must have a static IP address.
- All LockView Clients must also be able to connect to the LockView SQL DB through ODBC.
- Network Modules need to be setup/changed with the USB cable. This is the main reason a laptop with LockView Client is required. See pages 35-40 for setup.
- There should only be one computer set up to be the LockView Server.
- There should only be one LockView SQL Database.

How the Network Modules work with SQL and LockView.
- The Network Modules must be setup to communicate with the Server through its IP Address. This can be set in LockView with the USB cable in the LockView Settings menu.
- The Server IP Address programmed in the network modules is the computer that is set up to be the LockView server.
- LockView Server installs a service that runs automatically called LockService.
- LockService must be running on the LockView Server for the Network Modules to update to the Database.
- LockView Clients install the same LockServ. LockServ runs only when the LockView program is running.
- LockView must have a valid ODBC setup to the SQL database to connect.

CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO

On the computer configured with Microsoft SQL Server Management Studio, go to **Start - All Programs** - Microsoft SQL Server - open Microsoft SQL Server Management Studio

1. Select the SQL Instance where the **lvServer db** will be installed.
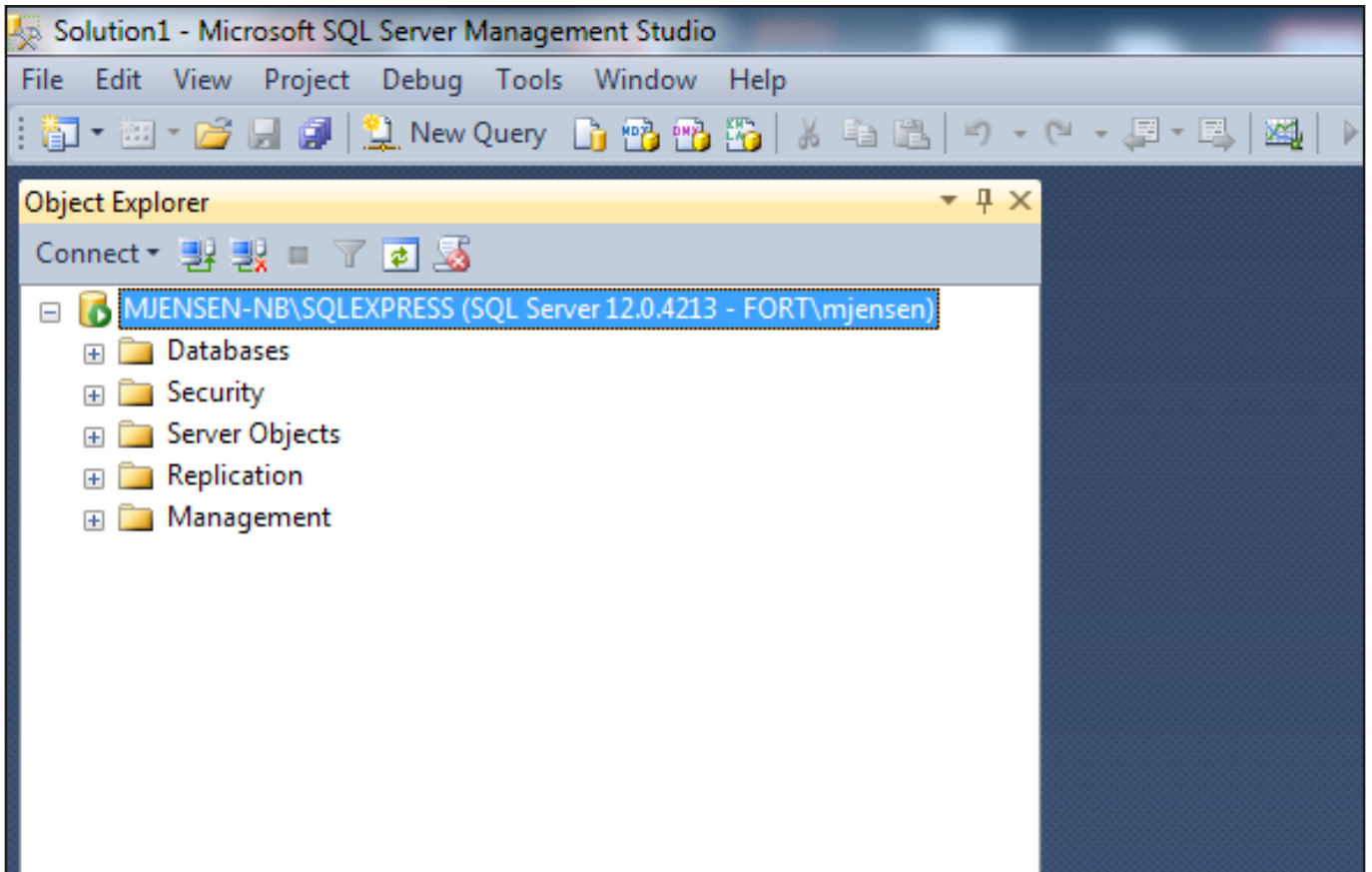
2. Click **File - Open - File**
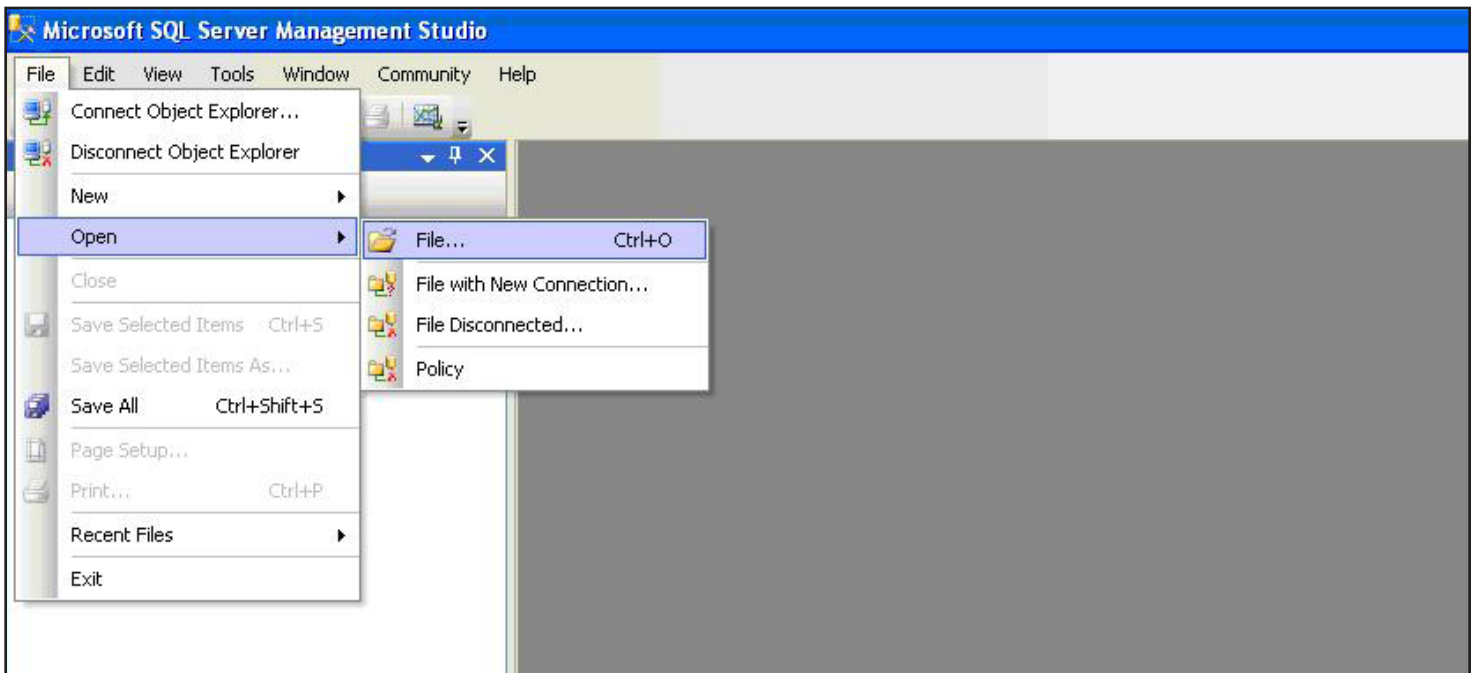
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

3. Navigate to the script "lvServer_dbCreate.sql" (on the install cd and (once installed) can be found typically at C:\Program Files (x86)\LockView5\SQL Script) then click **Open**
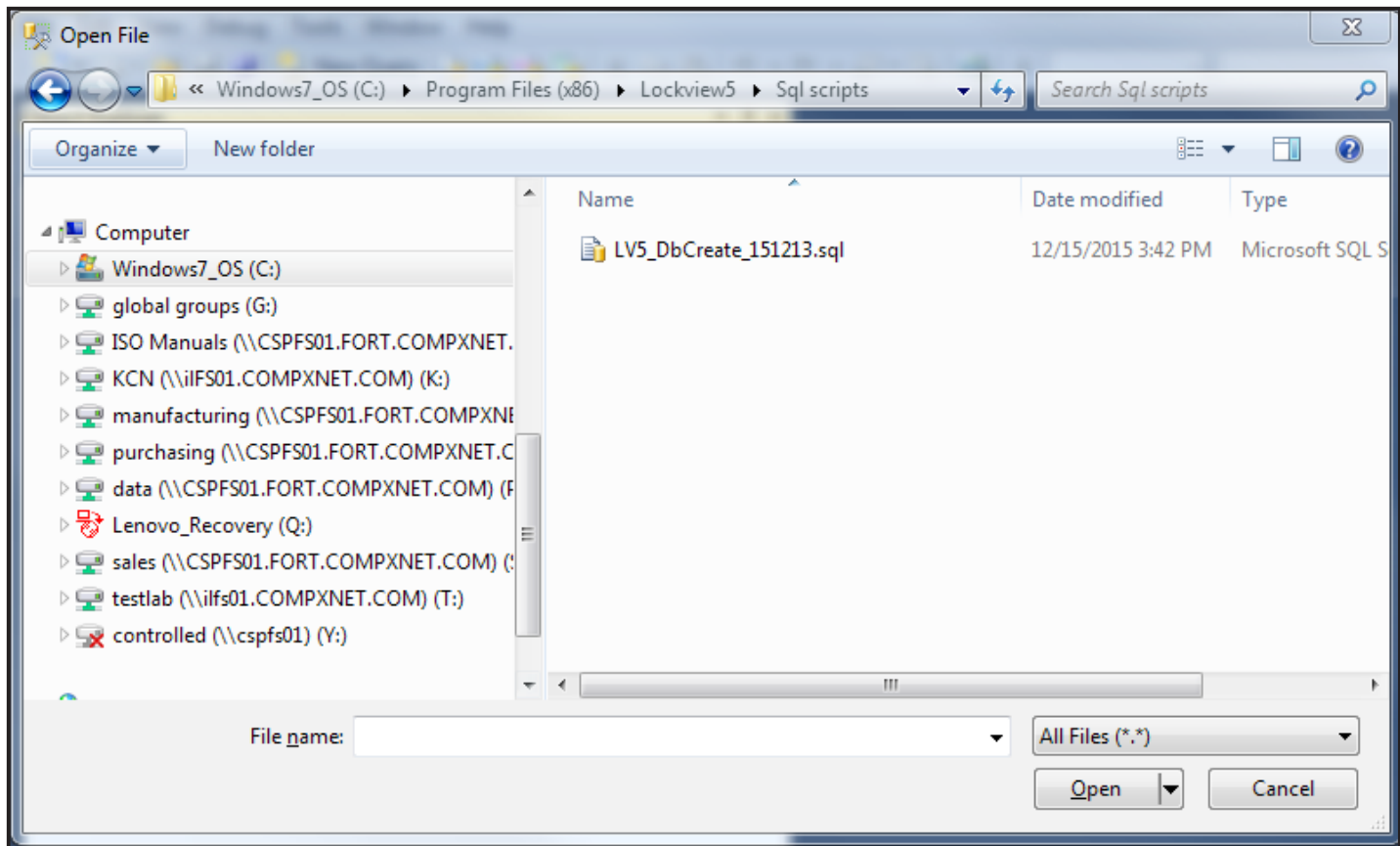
4. Click **Execute** – Be sure that 'master' is the db selected in this box.
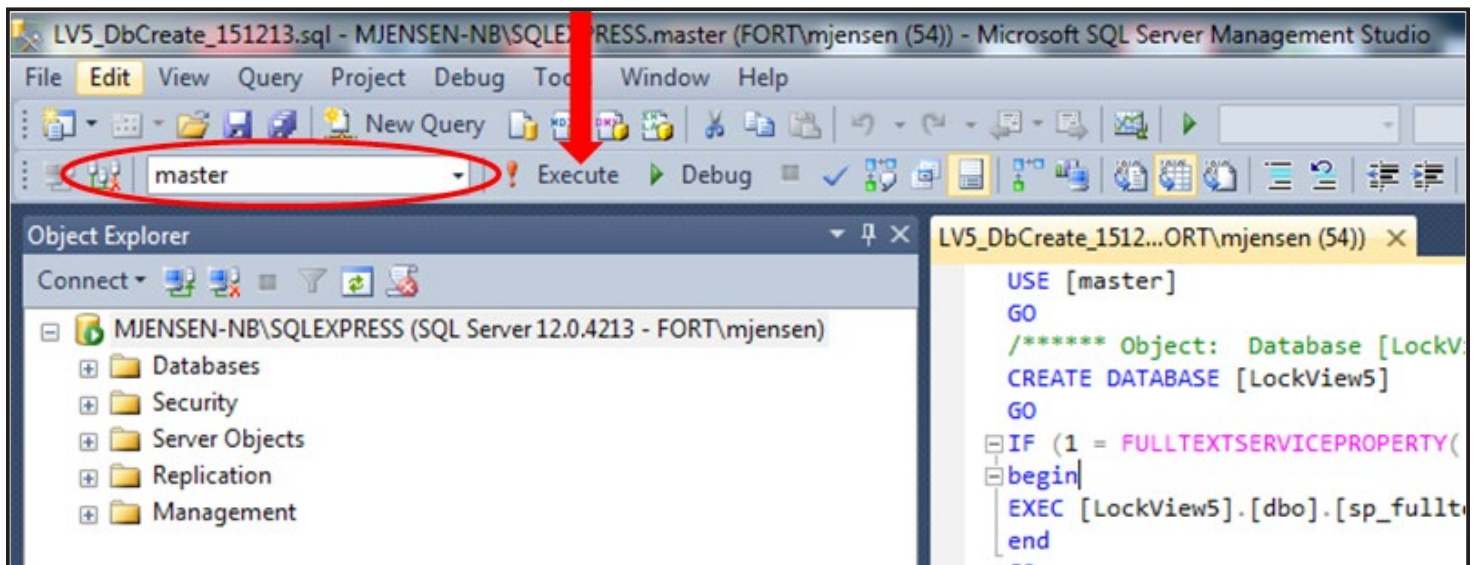
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

5. After a few seconds, the script runs and (1 row(s) affected) messages will be displayed. Click **F5** (to refresh the screen)
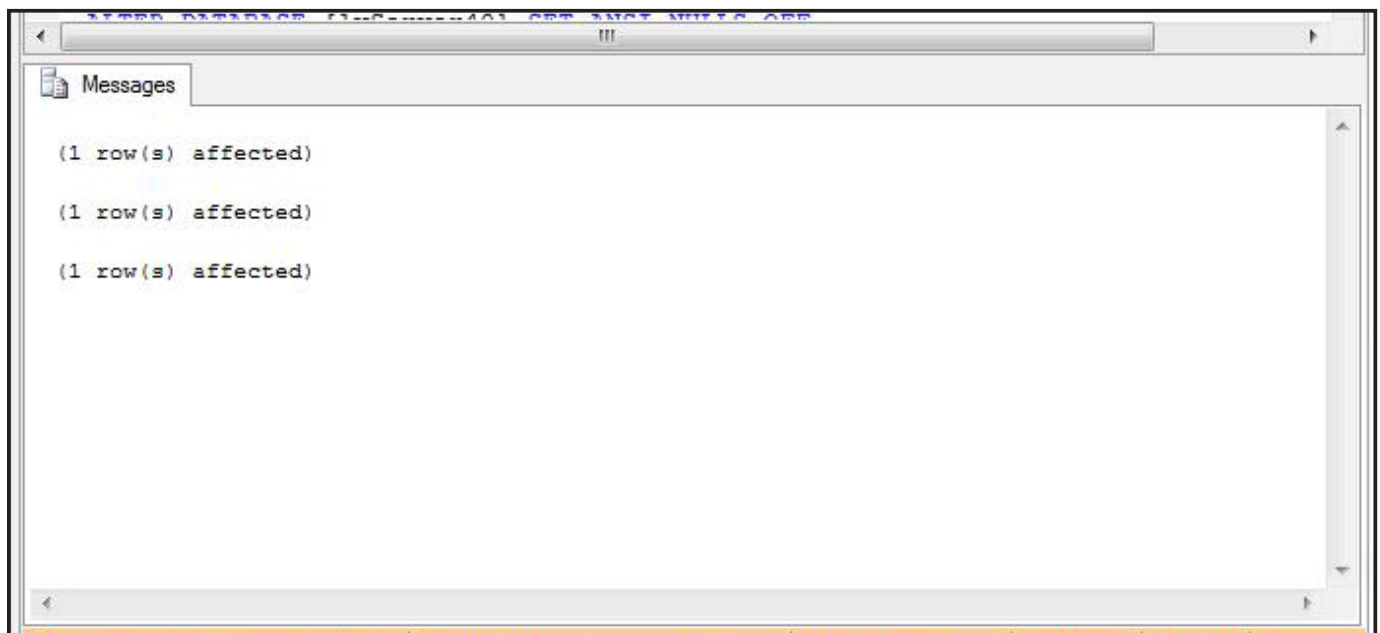
6. Steps 6 and 7 allow the service 'LockService' to run properly due to it running as 'Local System' by default. 'Local System' does not have access to the database by default.

    Grant db_owner Privileges to NT Authority\SYSTEM
    -   Expand Security, Expand Logins, and right-click 'NT Authority\SYSTEM'
    -   Select 'Properties'

9
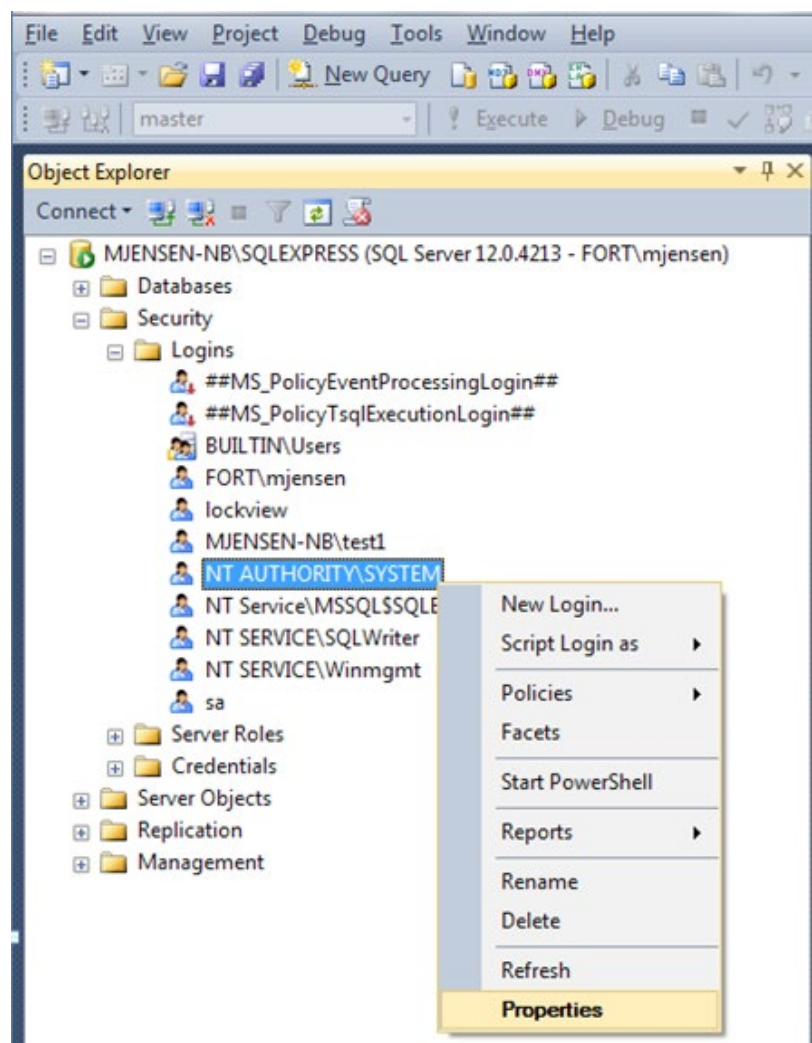
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

7. Select 'User Mapping'
    Select 'LockView5' or the database that was created if changed from default
    Select 'db_owner'
    Click 'OK' to Save the changes
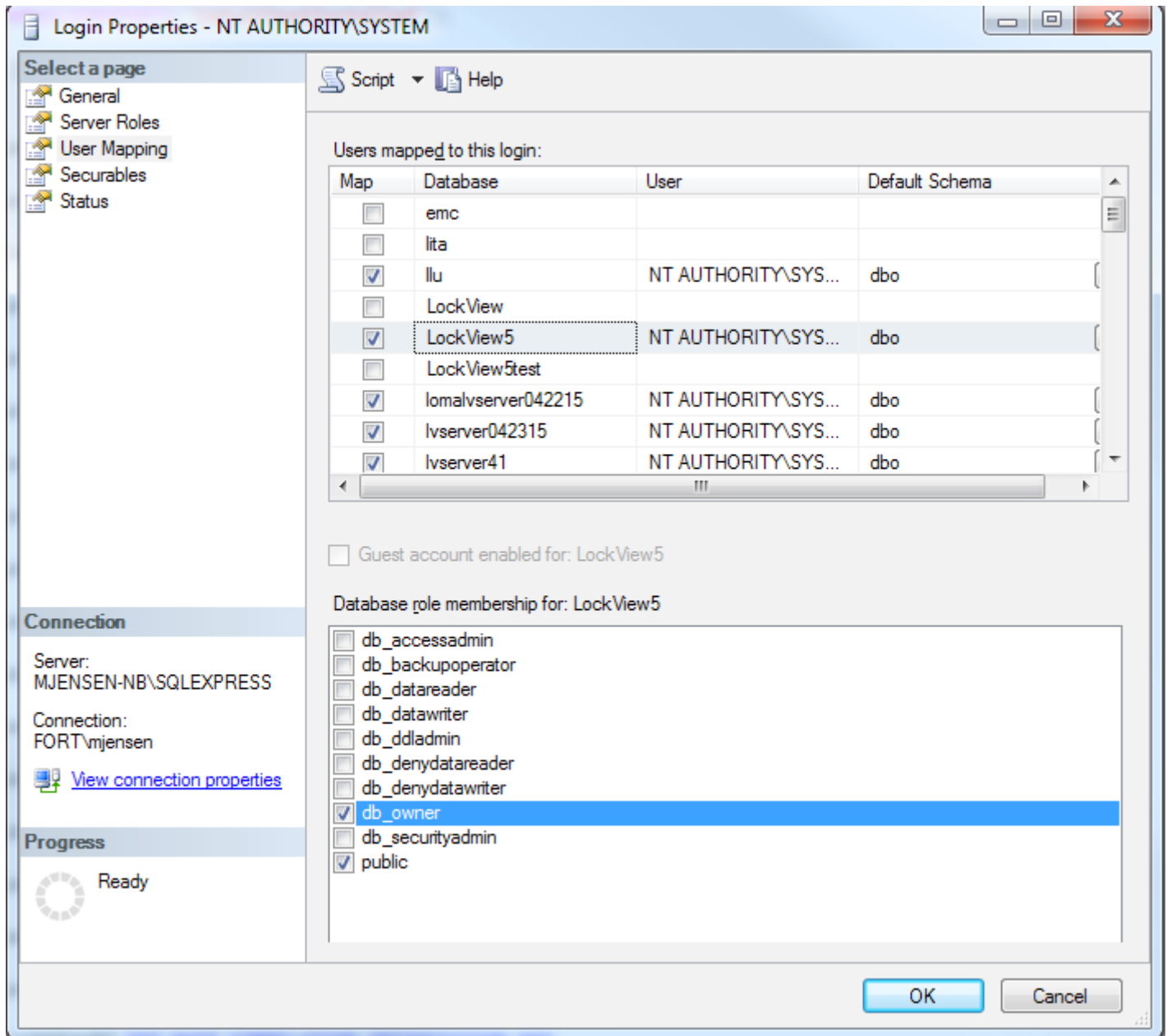
Note: If Steps 6 and 7 do not work for your environment you can also change the 'Logon Account' to the Service 'LockService' to an Account that has db_owner privileges to the database if desired.

CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO cont.
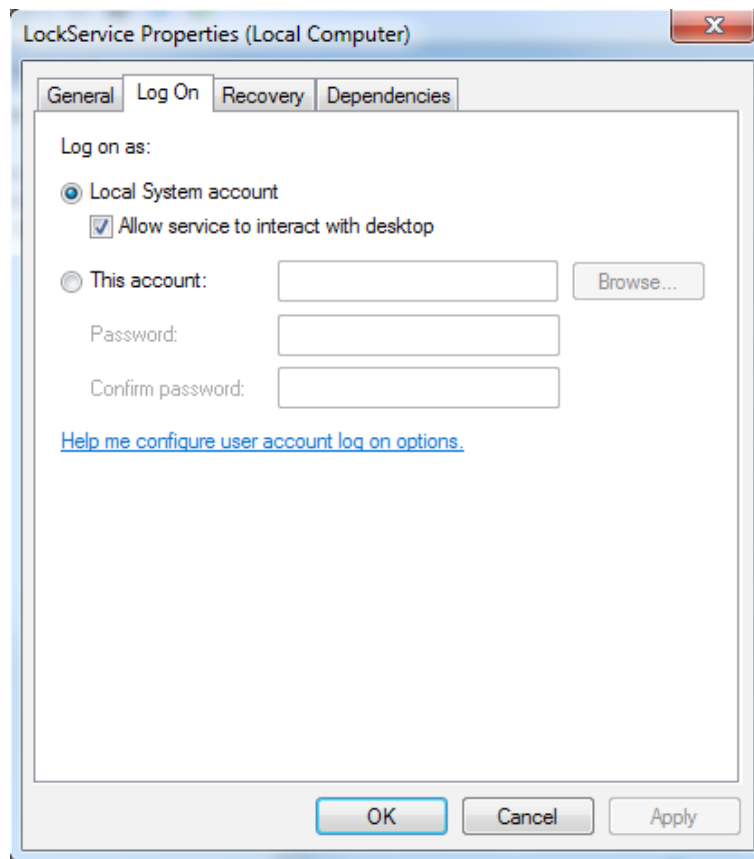
8. Grant DBO privilege to database and required users
   - Expand Security and right-click "Logins." Select "New Login"
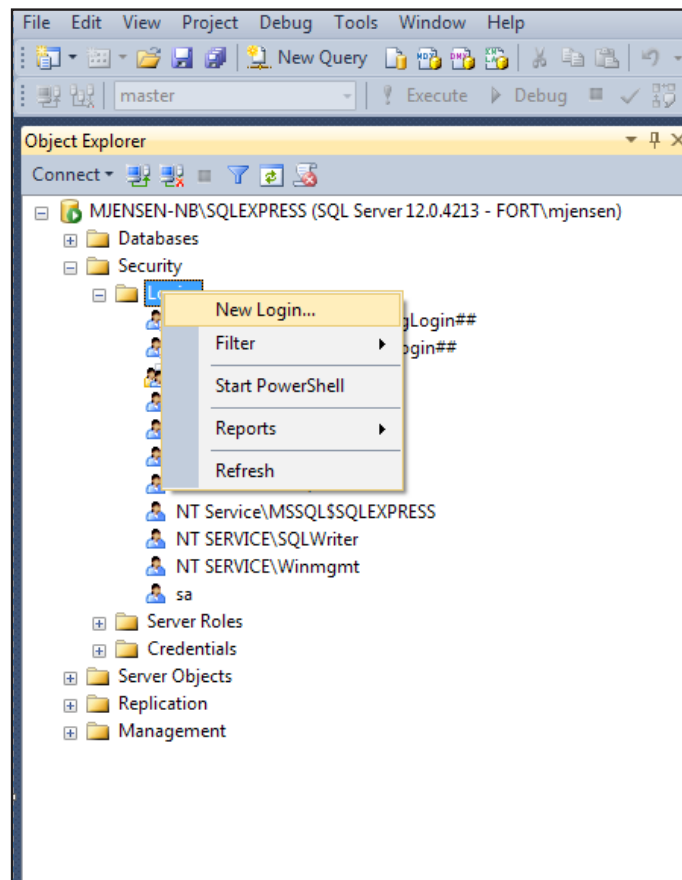
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

9. Create the login as needed under the "General" tab

10. Select "User Mapping"
   - Check the box next to the LockView database that was created with the SQL script
   - Check the box "db_owner"
   - Click "OK" to save the user
   - Repeat steps 9 and 10 for all users that will need access to the database

CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

11. Right Click on the Server\(Instance Name) – Click **Properties**
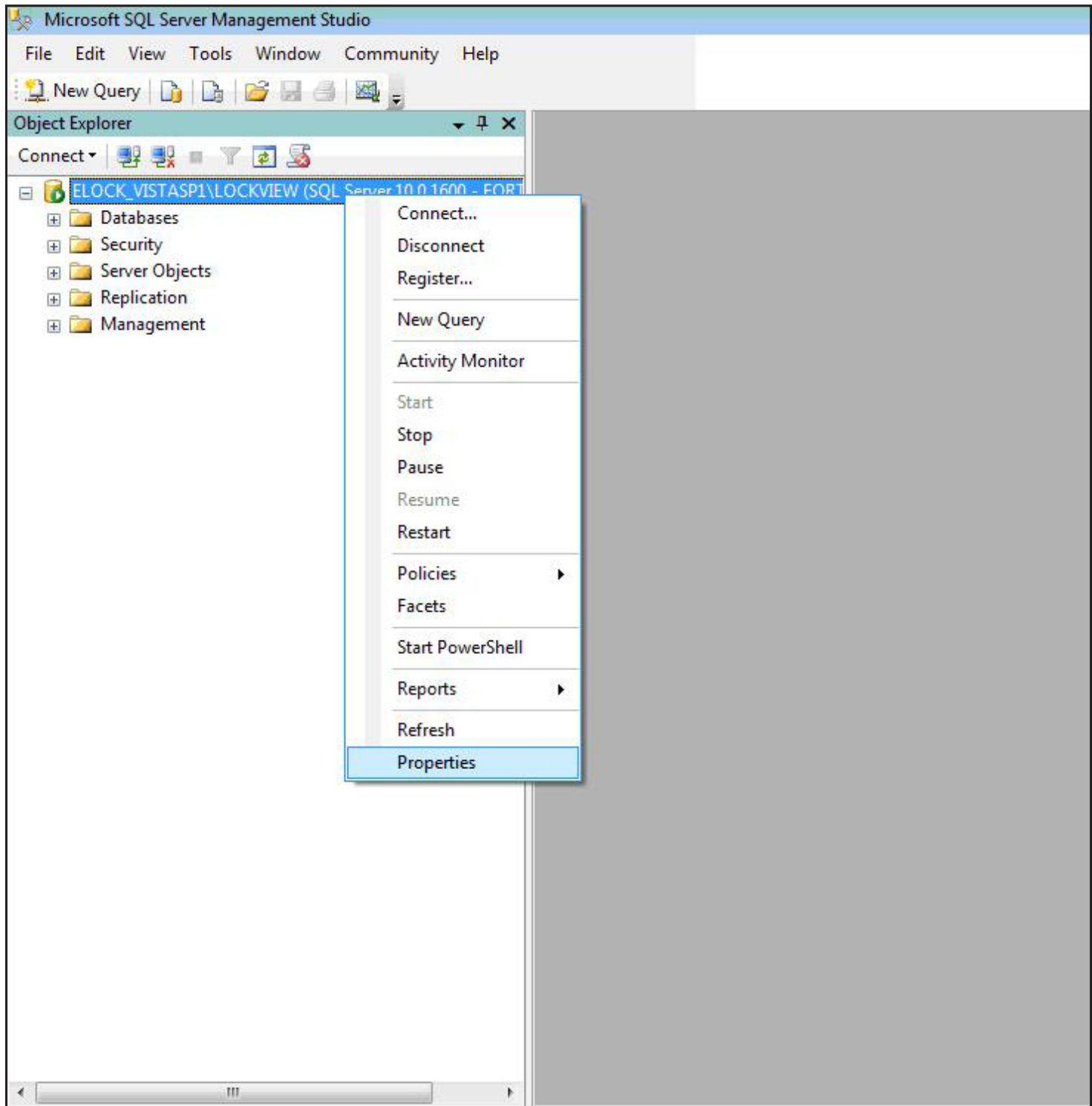
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

12. Select **Connections** and Check the box "**Allow remote connections to this server**." Click **OK**. Close out of the Microsoft SQL Management Studio
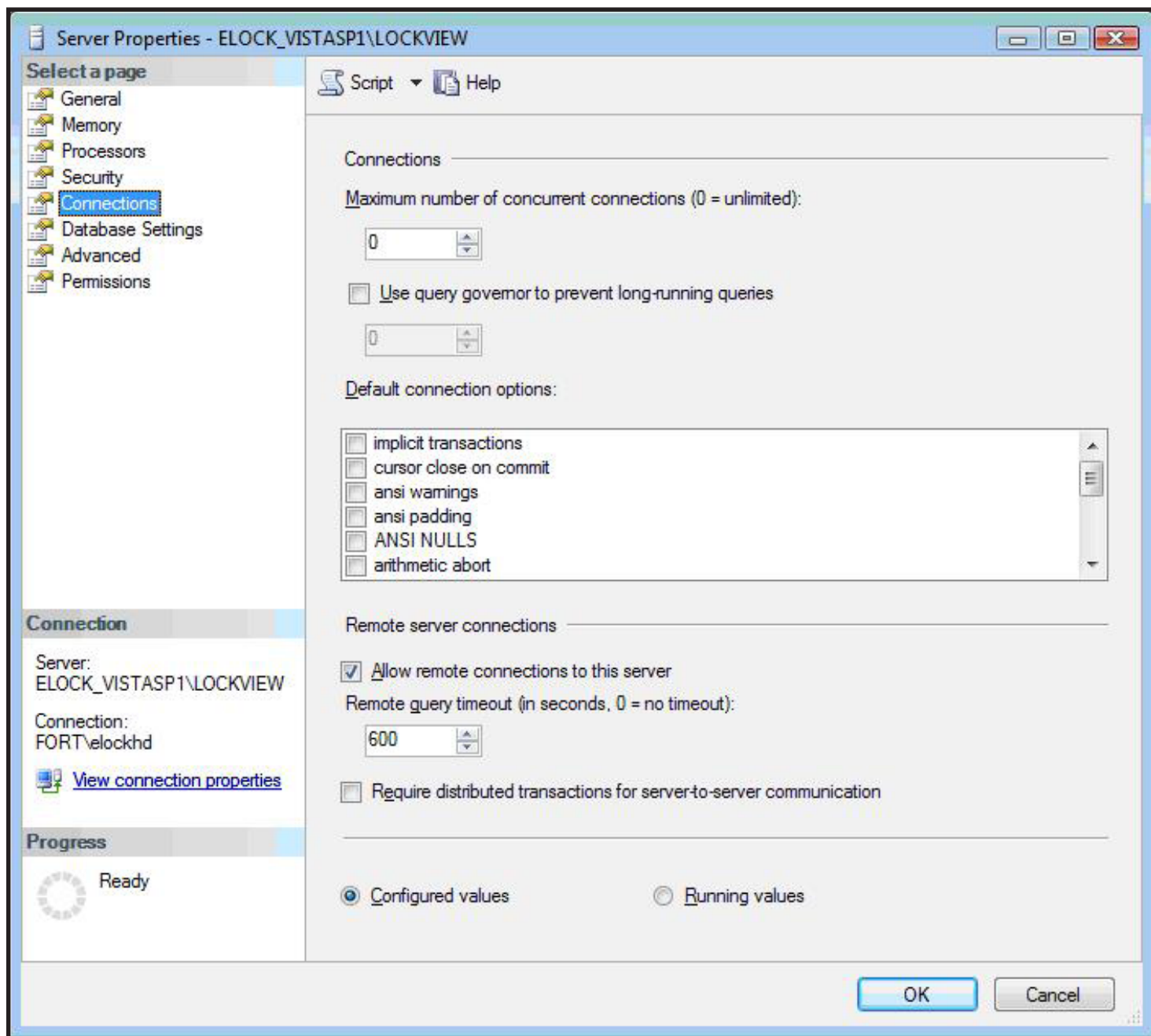
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO cont.

13. Open **SQL Server Configuration Manager**
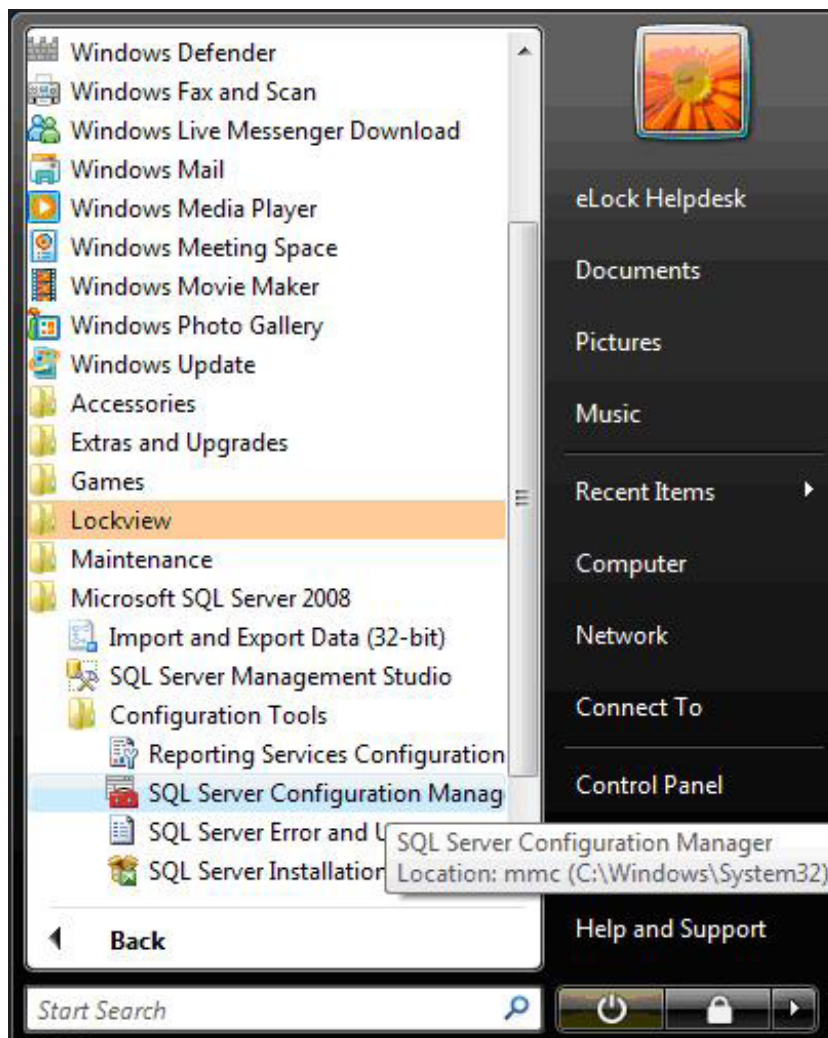
14. Be sure that SQL Server (Instance Name) is enabled and running. **Start Mode** should be Automatic for SQL Server.
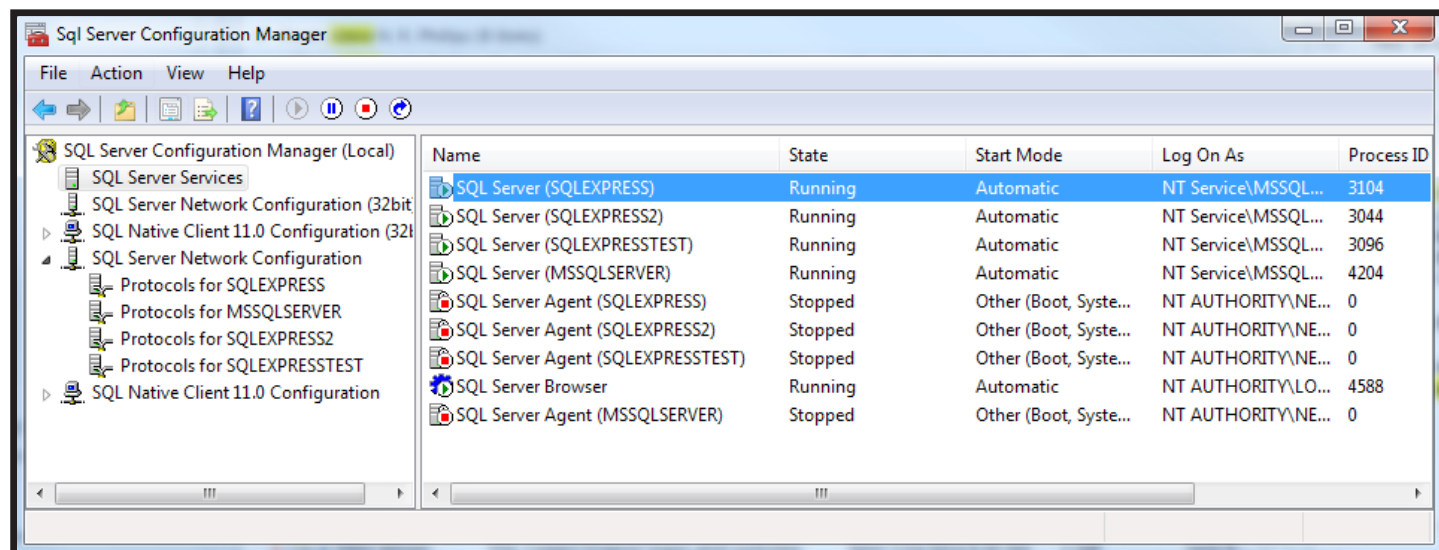
CONFIGURE MS SQL SERVER FOR LOCKVIEW 5/5PRO *cont.*

15. Click on **SQL Server Network Configuration**, click on '**Protocols for (Instance Name)**.' Enable **TCP/IP**.
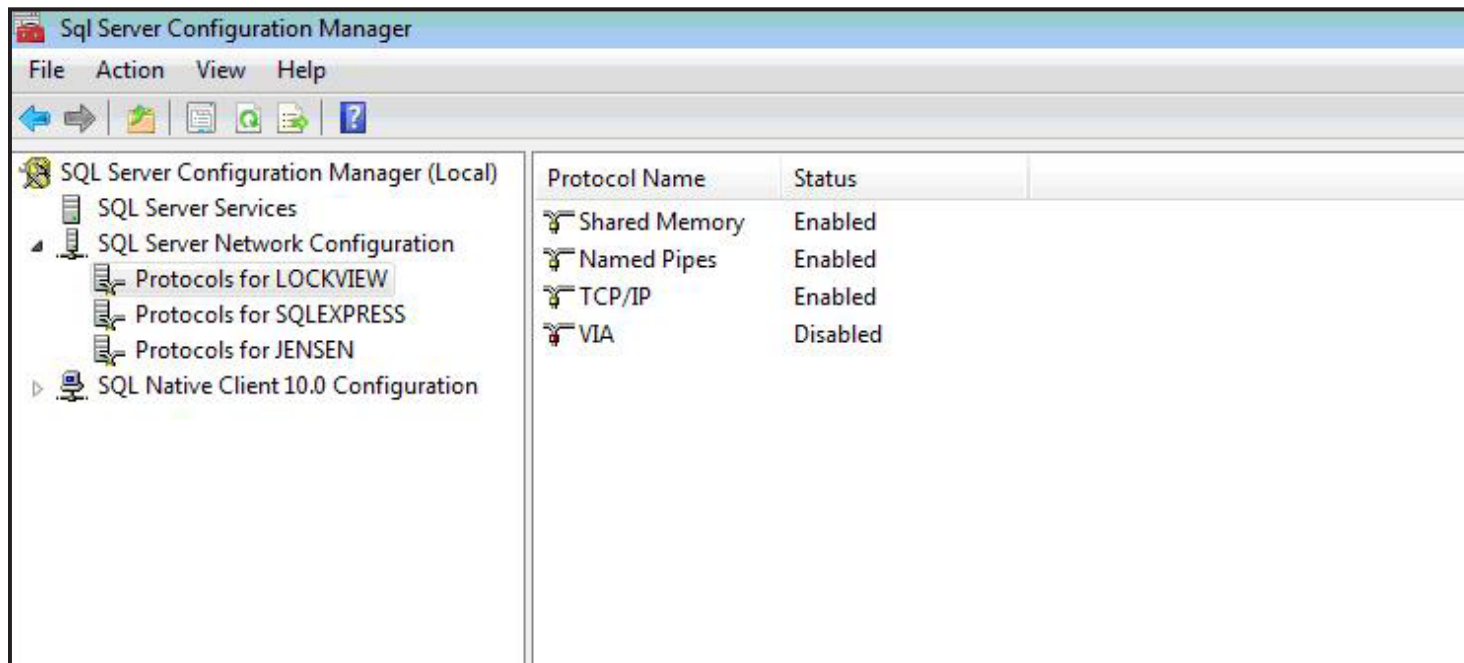
16. Open **SQL Native Client 10.0 Configuration**, Click **Client Protocols**, enable **TCP/IP**. Close out of SQL Server Configuration Manager.
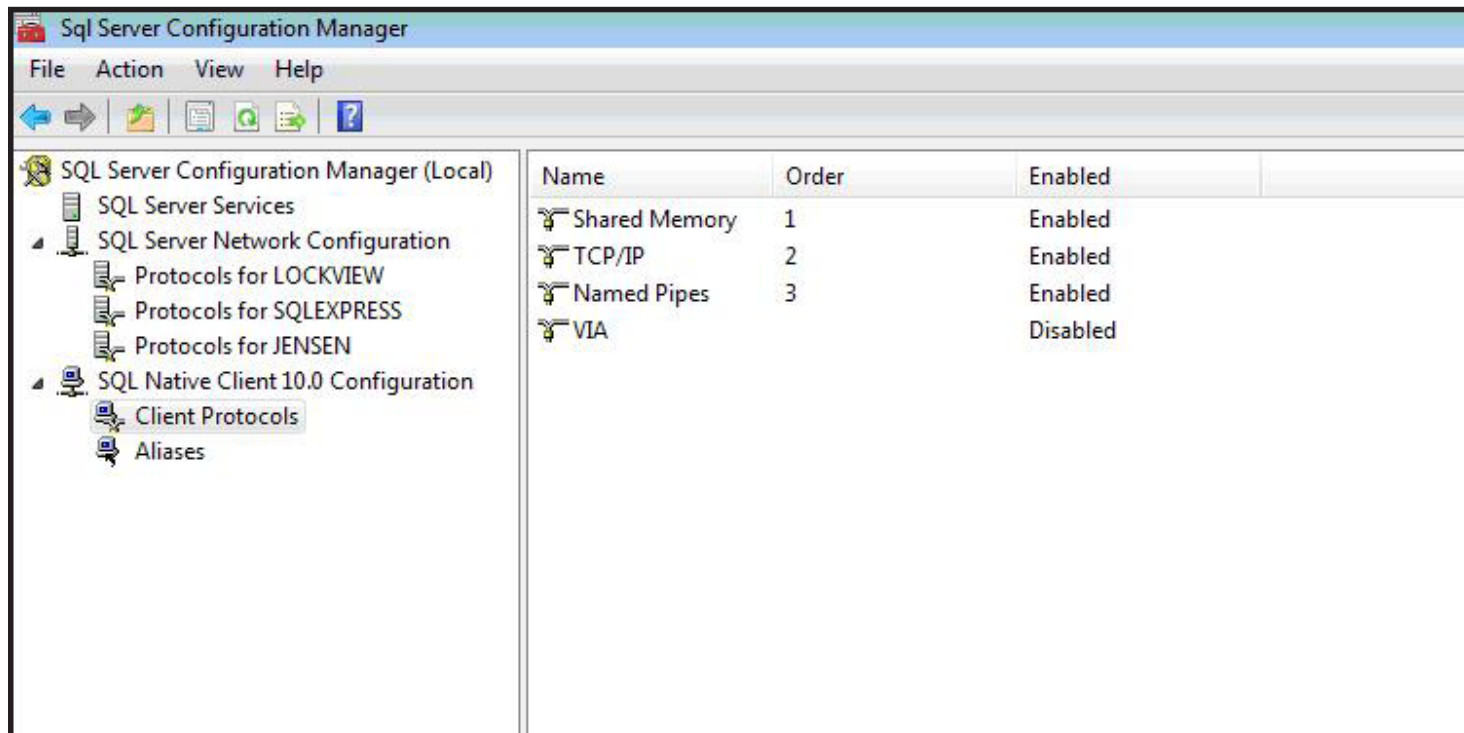
INSTALL LOCKVIEW 5/5PRO

Note: The person installing LockView must have ADMINISTRATIVE RIGHTS on the computer where LockView will be installed.

Insert LockView 5 USB drive

If the LockView Software did not autorun:
- Select Windows **START** button in bottom left corner of screen.
- Select **RUN**
- Select **BROWSE**
- Look in the appropriate USB Drive
- Select the "Autorun.exe file"

1. Install Shield will prepare to install.
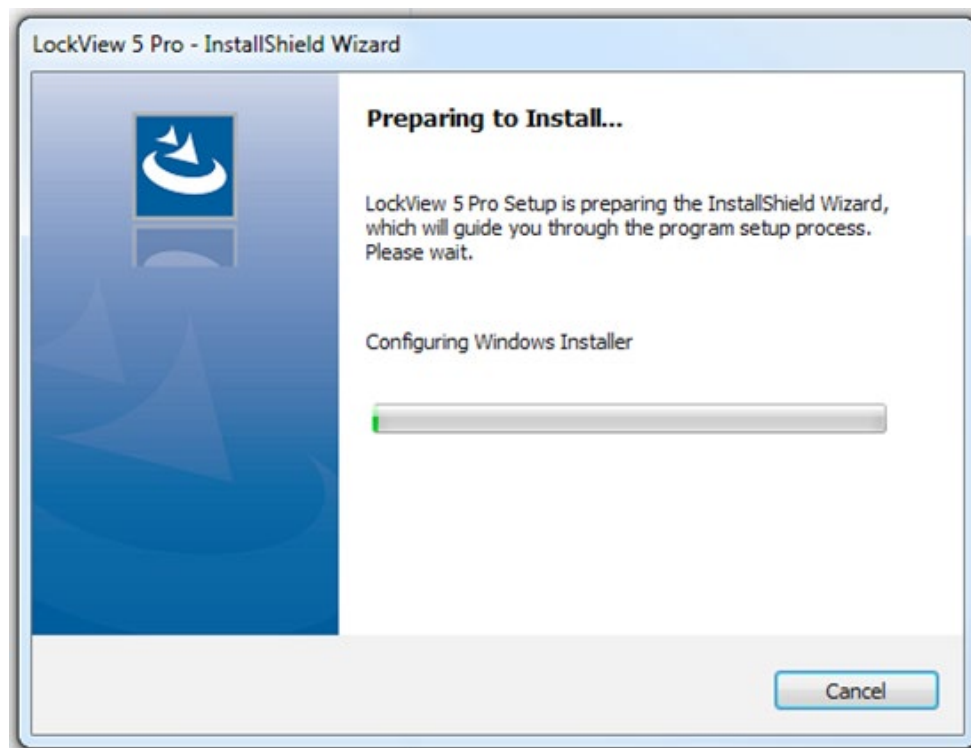
2. Click **Next**
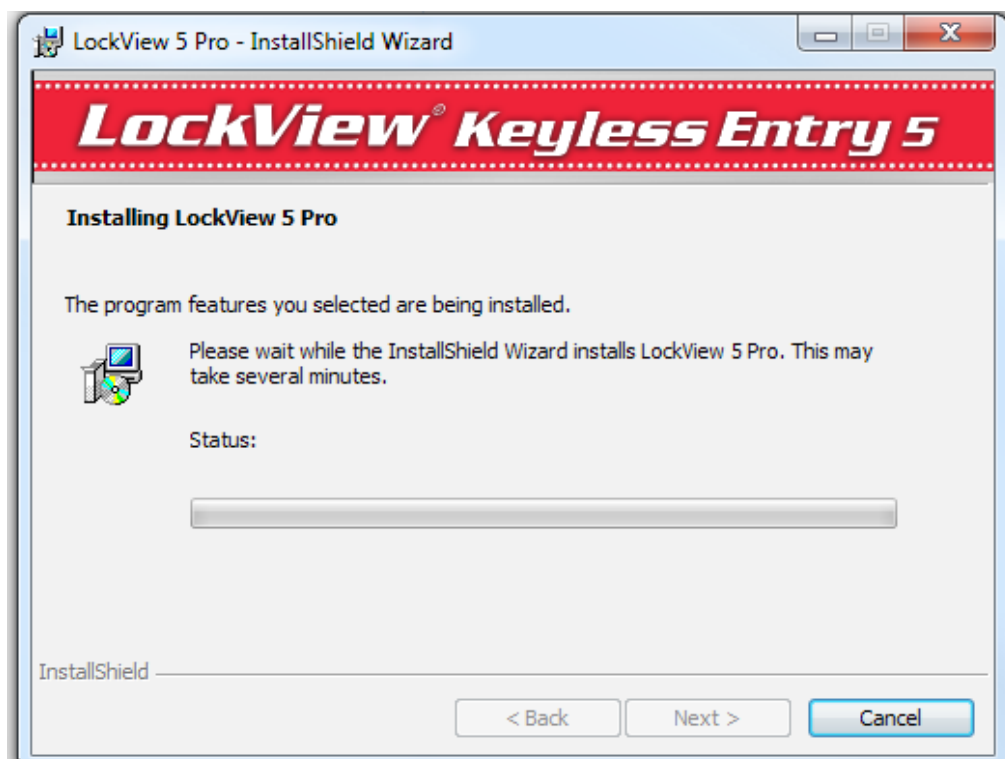
INSTALL LOCKVIEW 5/5PRO *continued*

3. Read agreement, if acceptable, click *I accept the terms in this agreement,* then click **Next**
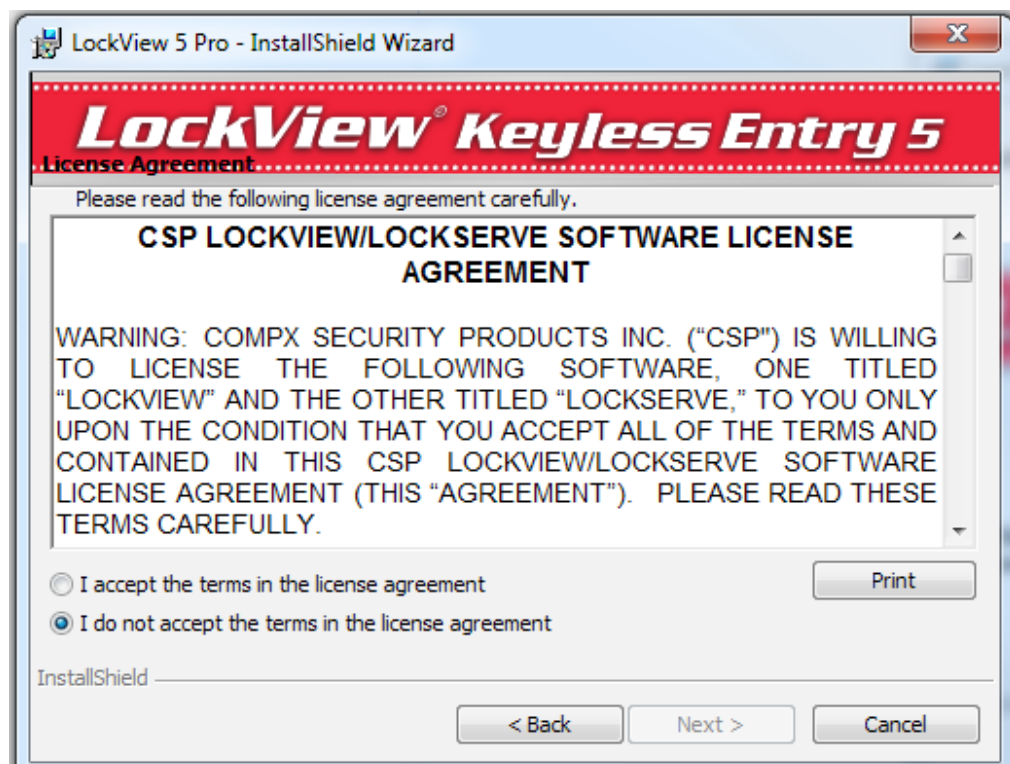
4. Click **Next**

    (It is not recommended to install LockView at different locations other than the default.)
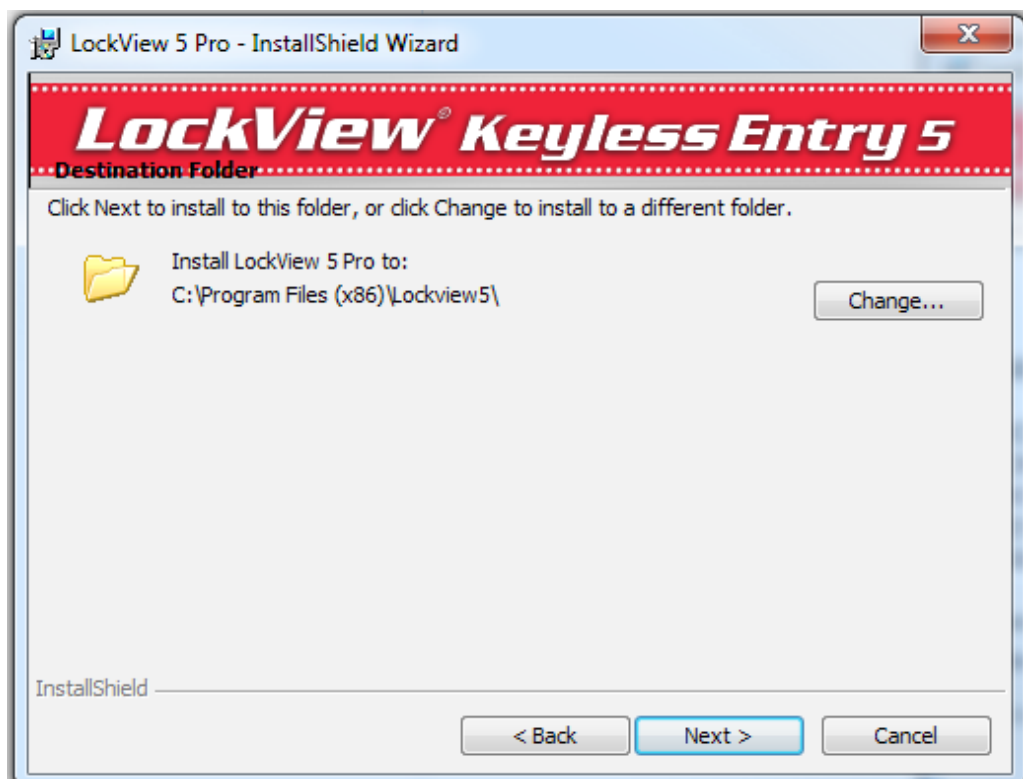
INSTALL LOCKVIEW 5/5PRO *continued*

5. Select 'Install LockView Server' for server install and "Install LockView client" for client install, then click **Next**.

   Note:
   - If this is a Standalone or MS Access installation, select Install LockView Client.
   - LockView Server should only be selected if this is the main lock server.
   - There should only be one LockView Server for Networked installs.
   - Multiple LockView Clients maybe installed.
   - Non-Networked installs only require LockView Client
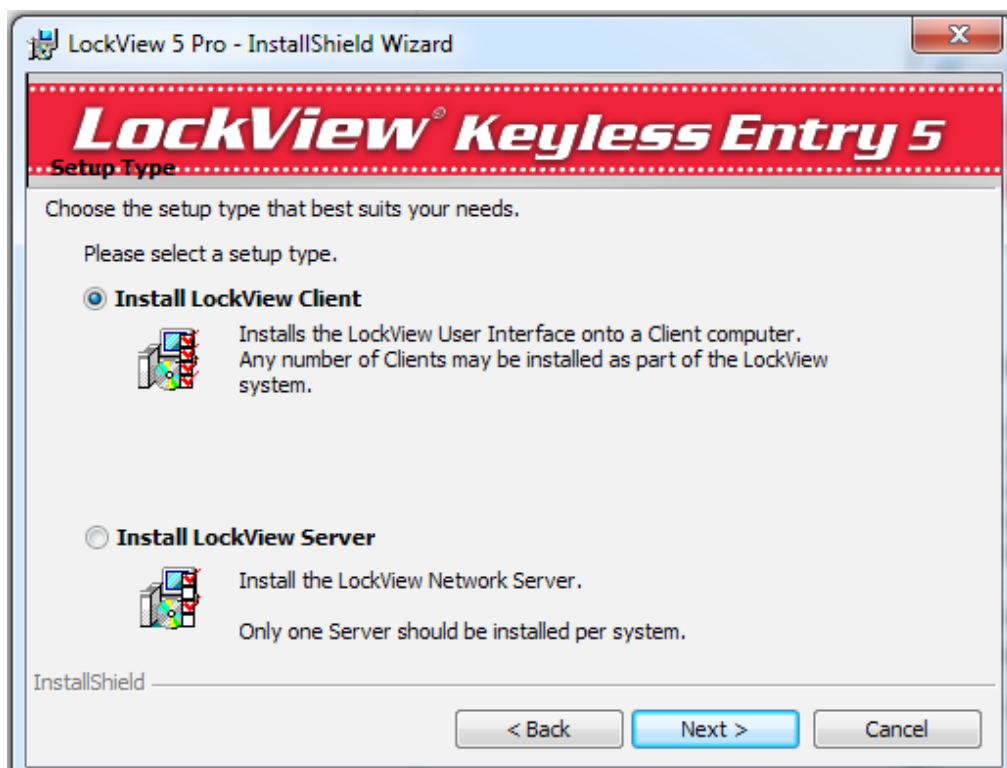
6. Click **Install**
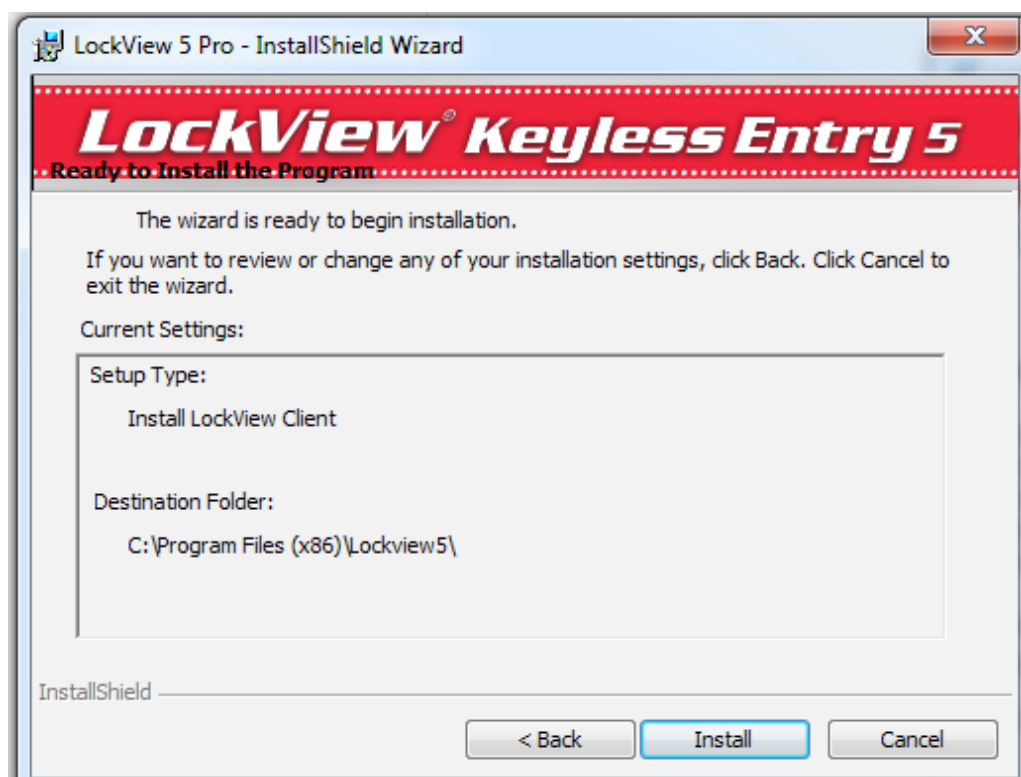
INSTALL LOCKVIEW 5/5PRO *continued*

7. Installation begins
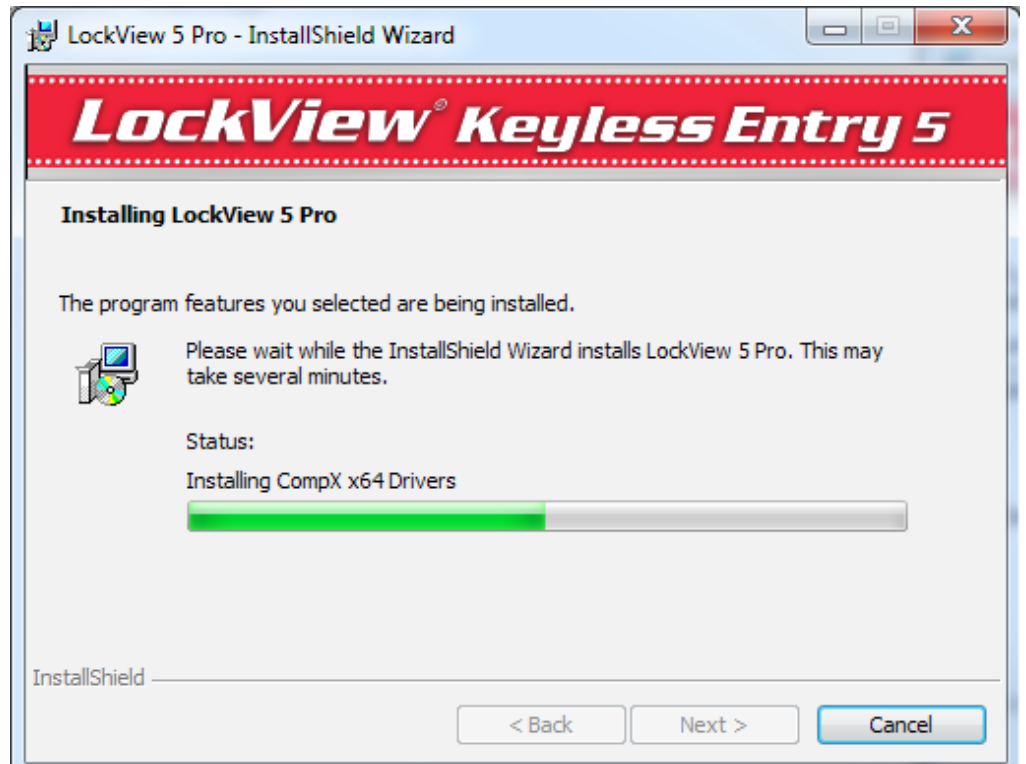
8. Click **Finish**
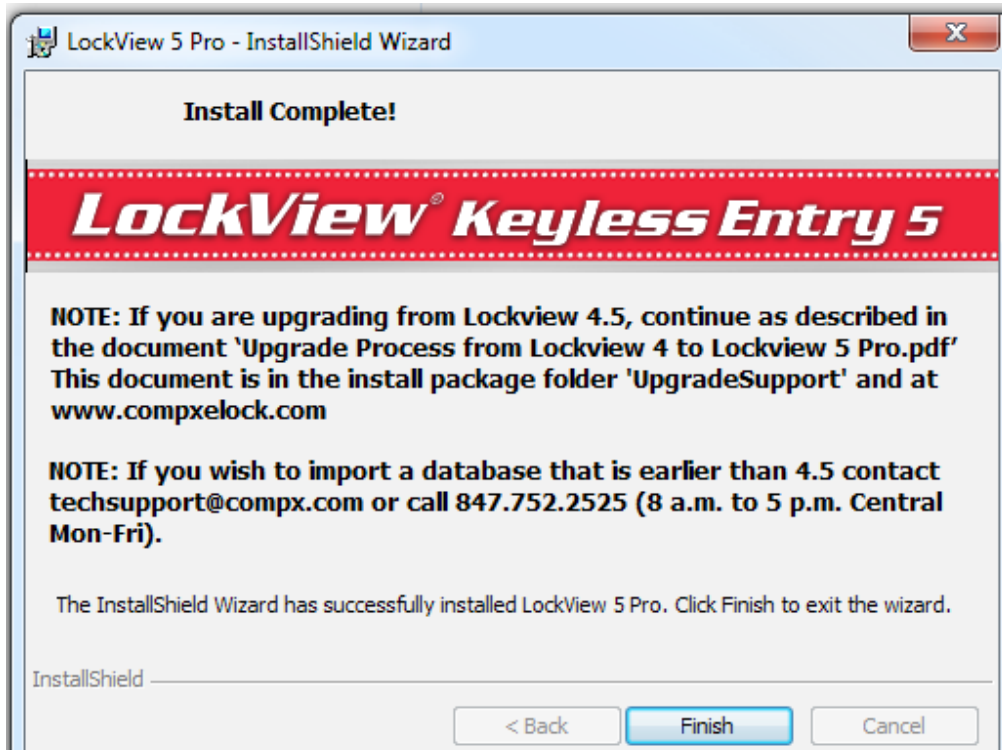
Continue to document:
Configure LockView for SQL (pages 29-34)

Or

Configure LockView for Access (pages 27-28)

11. Restart computer.
12. After the reboot is completed below is the LockServ Icon that will appear in the toolbar.

If LockView was installed as a Server, LockServ will run as a service and the icon will always be present. If LockView was installed as a Client, the LockServ icon will only be displayed when LockView is open.

SOFTWARE LICENSING - REGISTRATION WIZARD

1. If connected to the internet or have email on the computer, please click on "Online Activation."

   If not, please call the CompX Technical Support Line 847-752-2525 between 8 am and 5 pm Monday - Friday and have the USB drive, serial number and Site Code available.
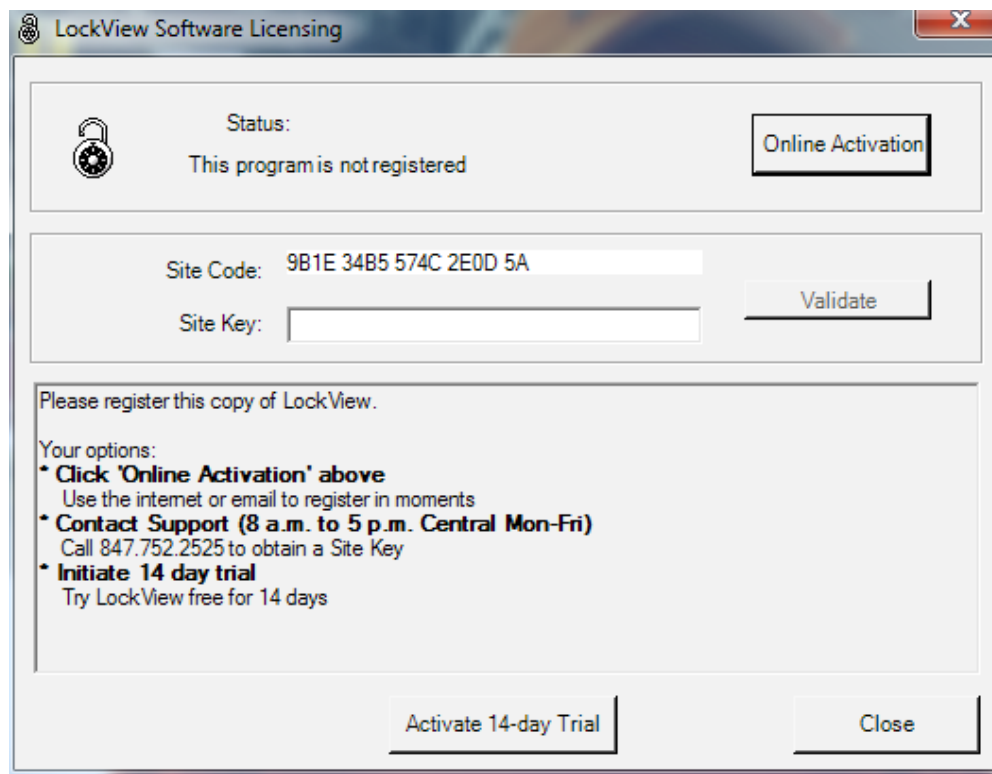
2. LockView Registration Wizard – Please enter the 12 digit serial number located on the back of the LockView USB Drive. Spaces are required. Click Next.

   Note: Enter Serial Number exactly as it appears on the sticker. **You must include the spaces** (ie. 1234 5678 9012 not 123456789012)
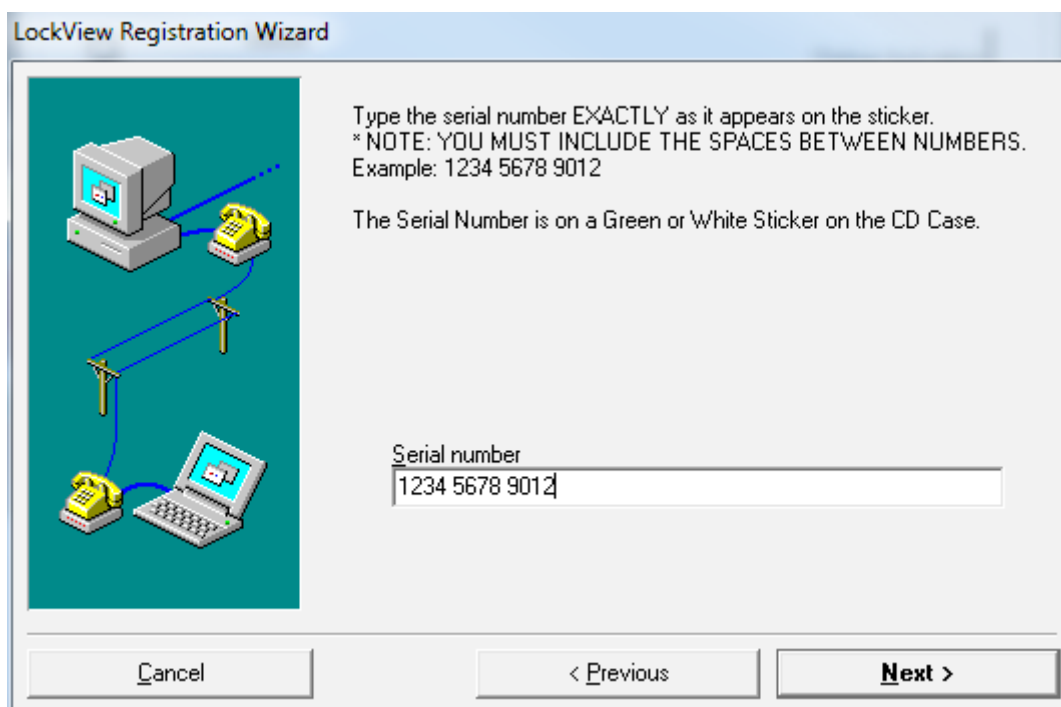
SOFTWARE LICENSING - REGISTRATION WIZARD *continued*

3. Please fill out the Registration information. Fields with an * are required.

4. Once the registration information is finished, the wizard will attempt to connect to the internet and register the software. If the software was registered successfully the following screens will appear.

Click Finish

SOFTWARE LICENSING - REGISTRATION WIZARD *continued*

Click close.
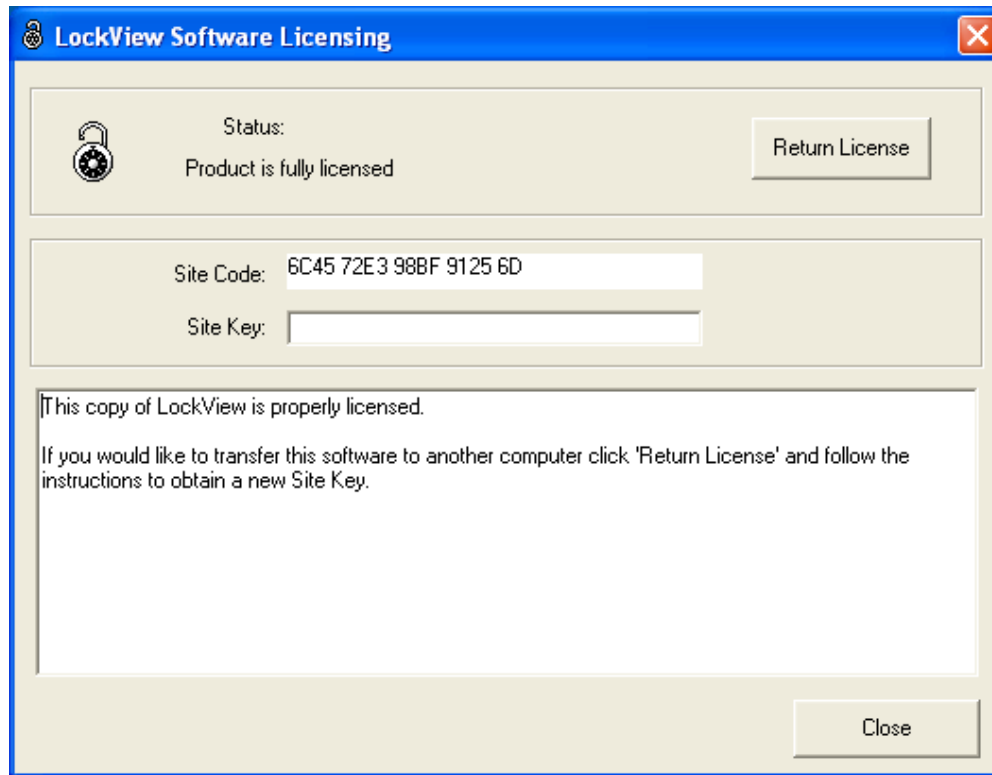
5. If an error is received the LockView Server could not be reached. An email can be sent to register LockView. Click OK on the Error message and the wizard will attempt to send an email to the Registration Server.
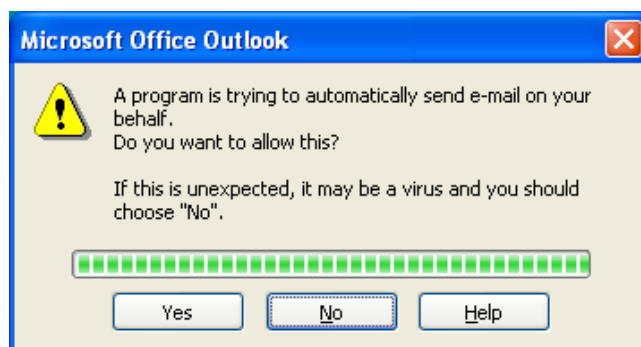
SOFTWARE LICENSING - REGISTRATION WIZARD *continued*

Click Next
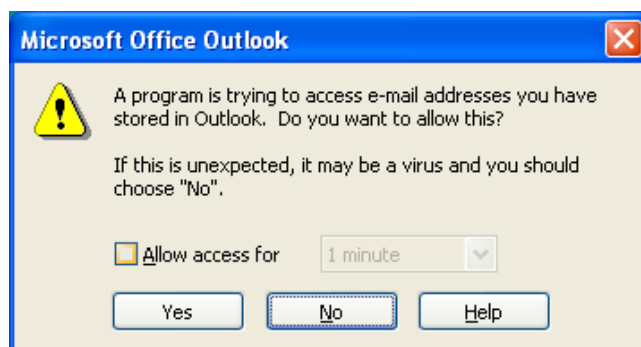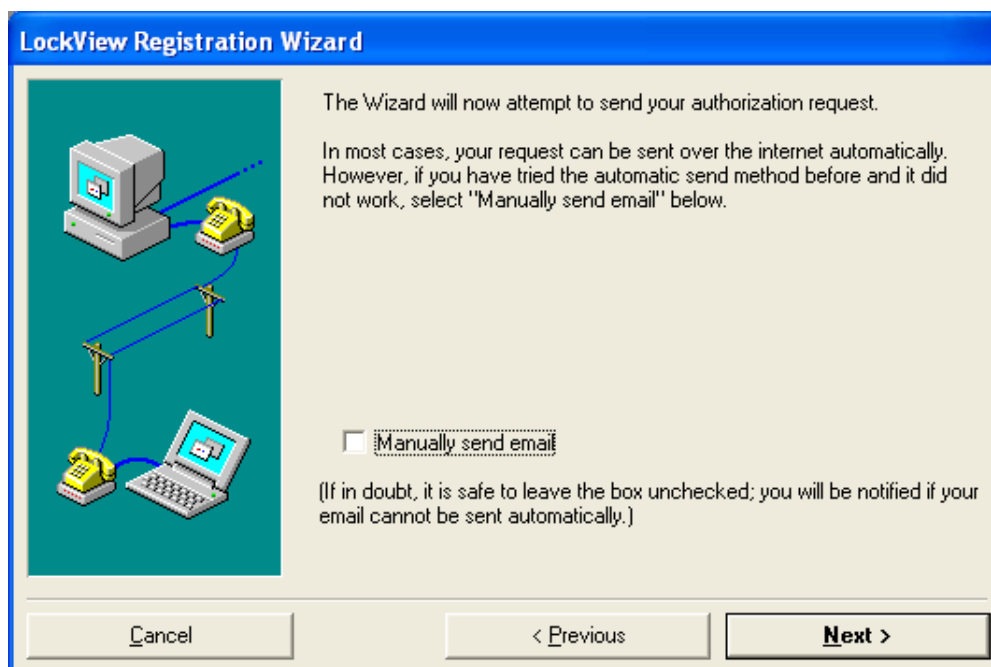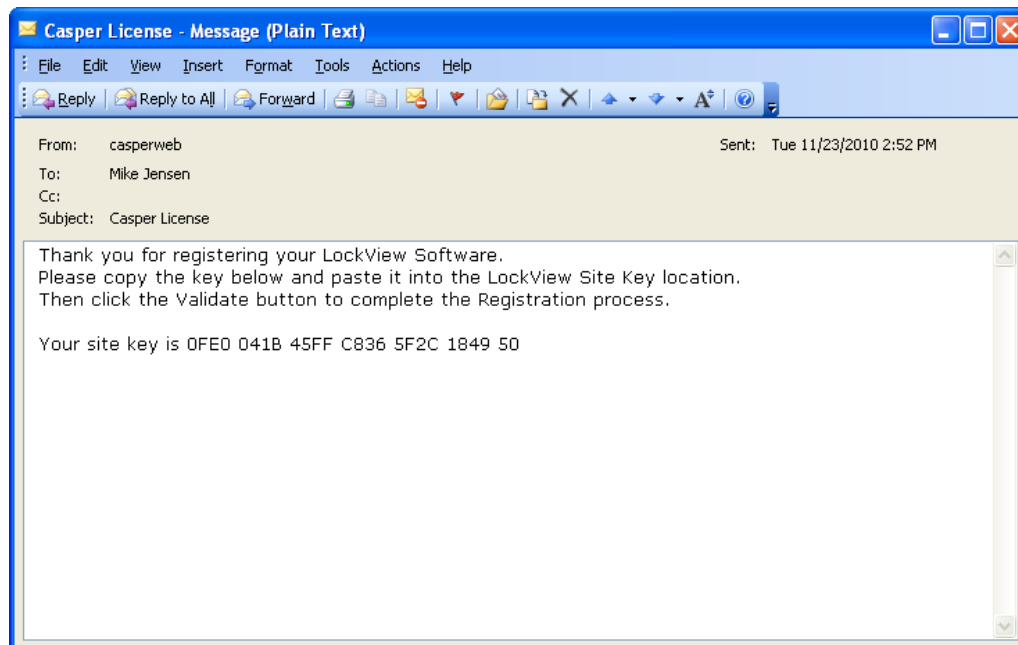

6. Click Yes when prompted to allow an email to be sent.

SOFTWARE LICENSING - REGISTRATION WIZARD continued

Click Finish to close the LockView Registration Wizard.
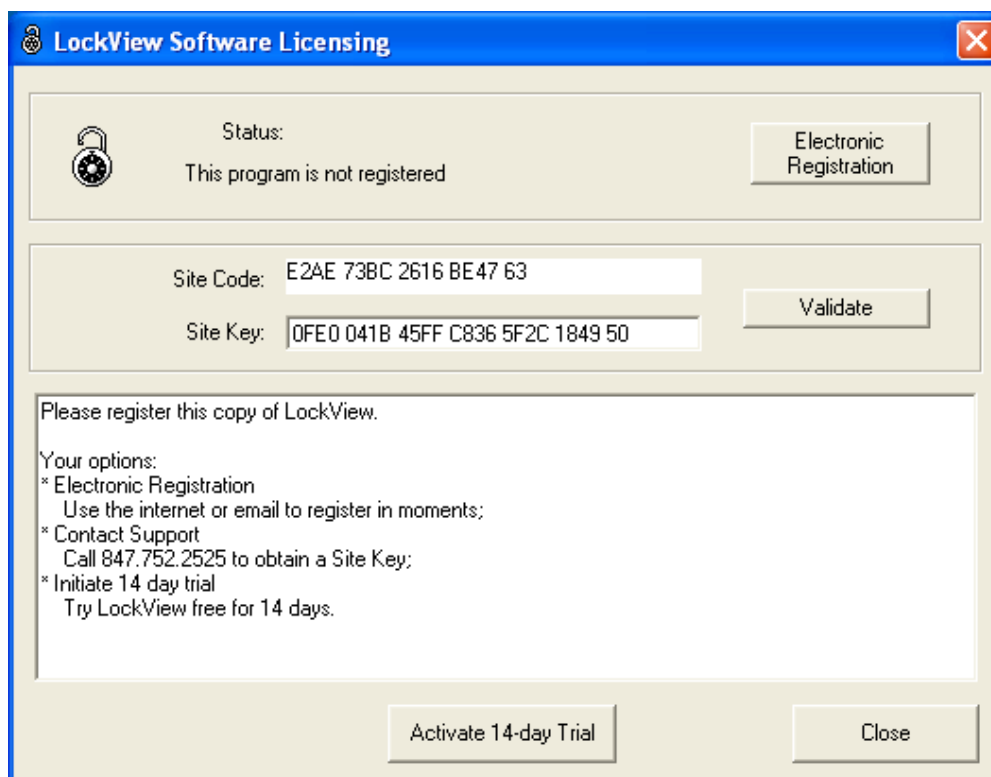

7. An email will be sent the registered email address.
   Copy the Site Key from the email and paste into the Site Key field within the LockView Software Licensing screen.

SOFTWARE LICENSING - REGISTRATION WIZARD *continued*

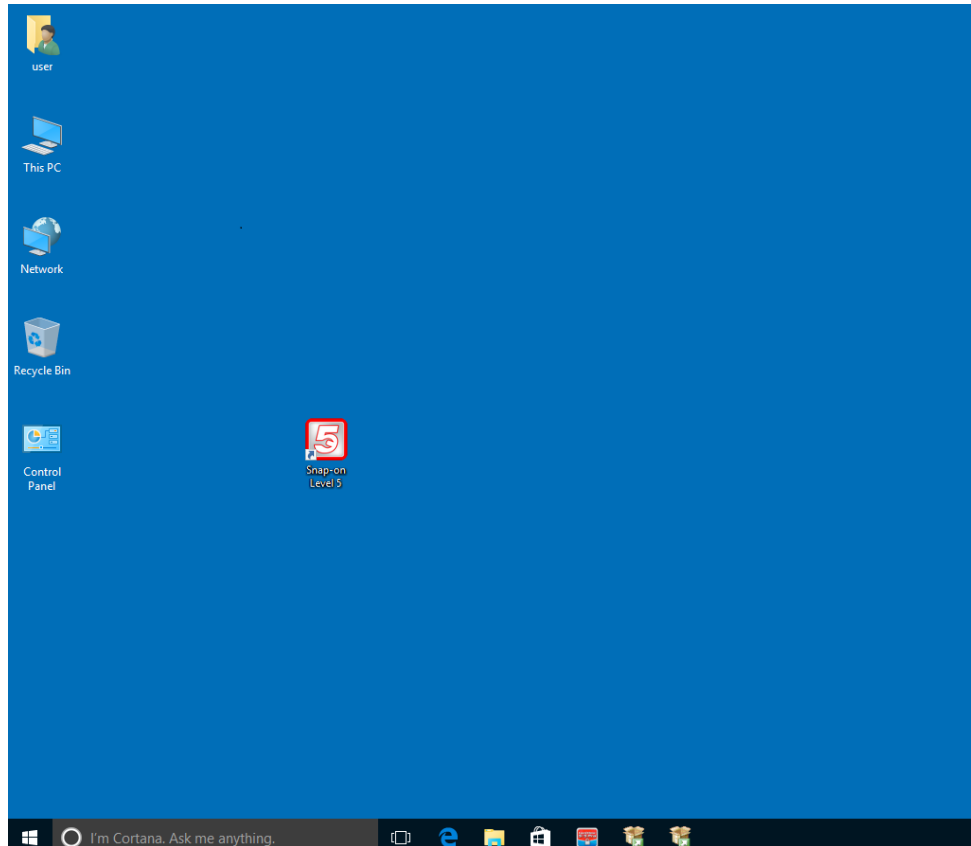Click Validate to ensure the software is properly licensed.

NOTE: If it becomes necessary to transfer the license to a different computer, a new Site Key will be required. Click on Return License to initiate this process.
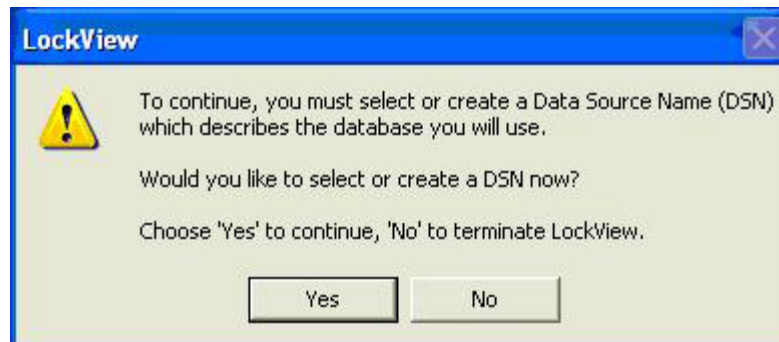
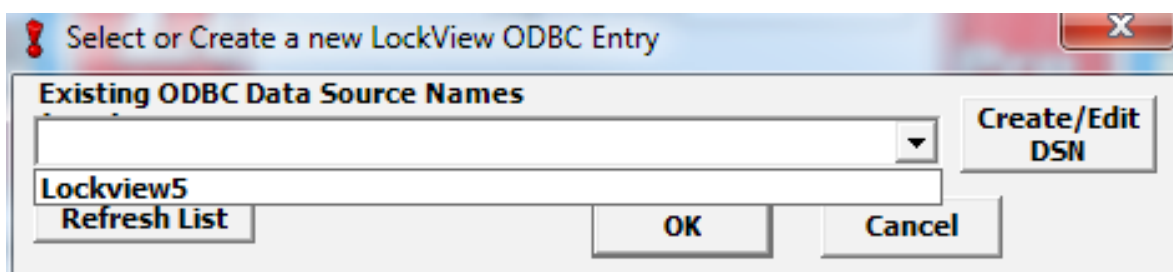# CONFIGURE LOCKVIEW5 FOR MS ACCESS *(STANDALONE)*

1. Double click the shortcut **LockView5/5Pro** icon found on the desktop.

2. Click **Yes**

3. Click the down arrow next to **Create/Edit DSN** and Select **Lockview5/5Pro**.Click **OK**.
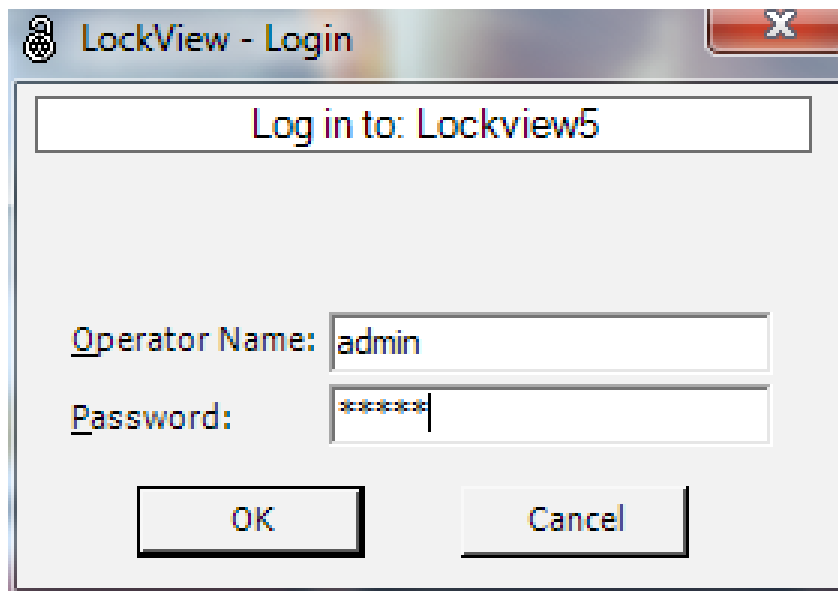

27

CONFIGURE LOCKVIEW5 FOR MS ACCESS *(STANDALONE) cont.*

4. LockView will now open. Login using the default username and password.

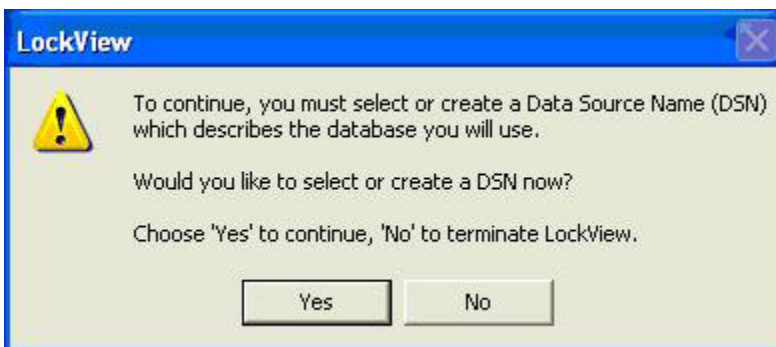   **Operator Name** – admin
    Password – admin

    Click **OK**

CONFIGURING LOCKVIEW FOR SQL

Note: For standalone install with Access database, go to page 28.
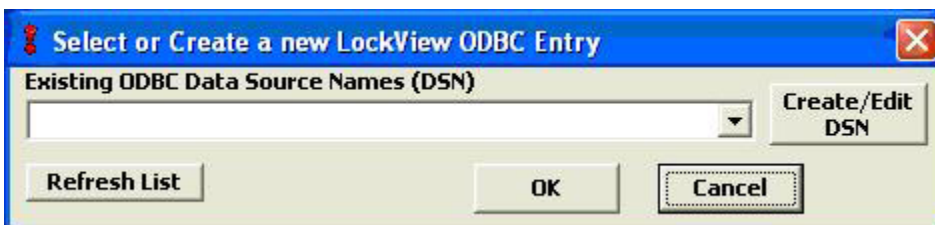
1. Double click the shortcut **LockView5** icon found on the desktop. If using Windows 7 or Windows Server 2008, right click and select "**Run As Administrator**."

2. Click **Yes**

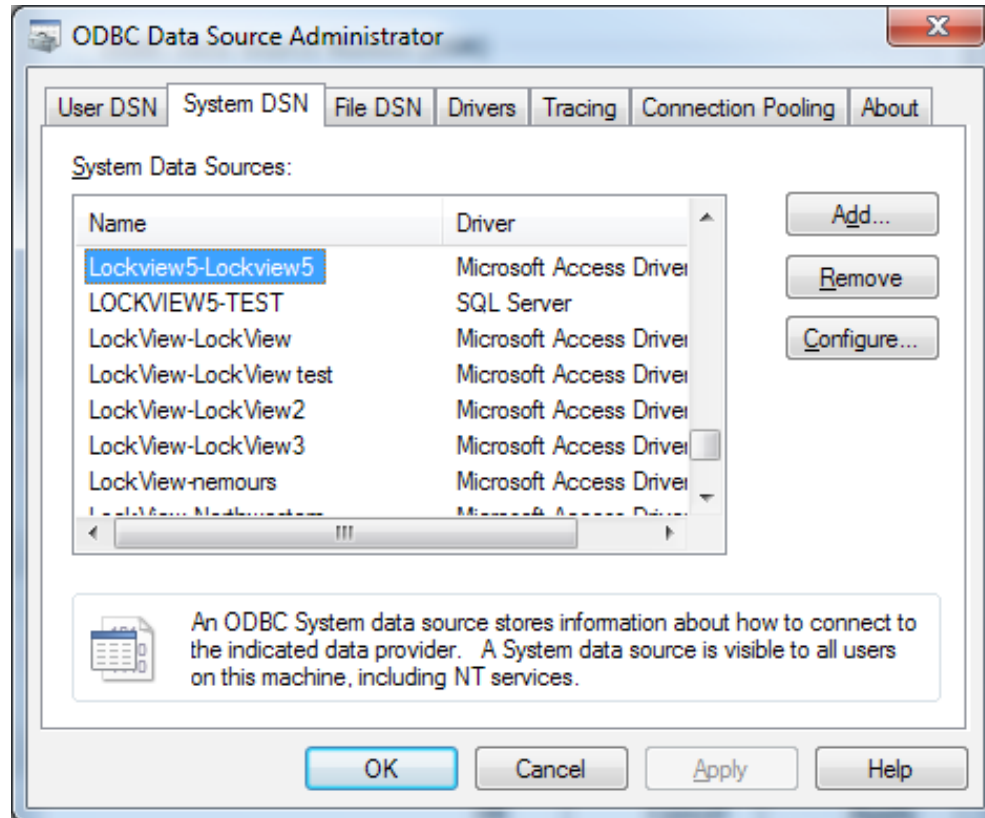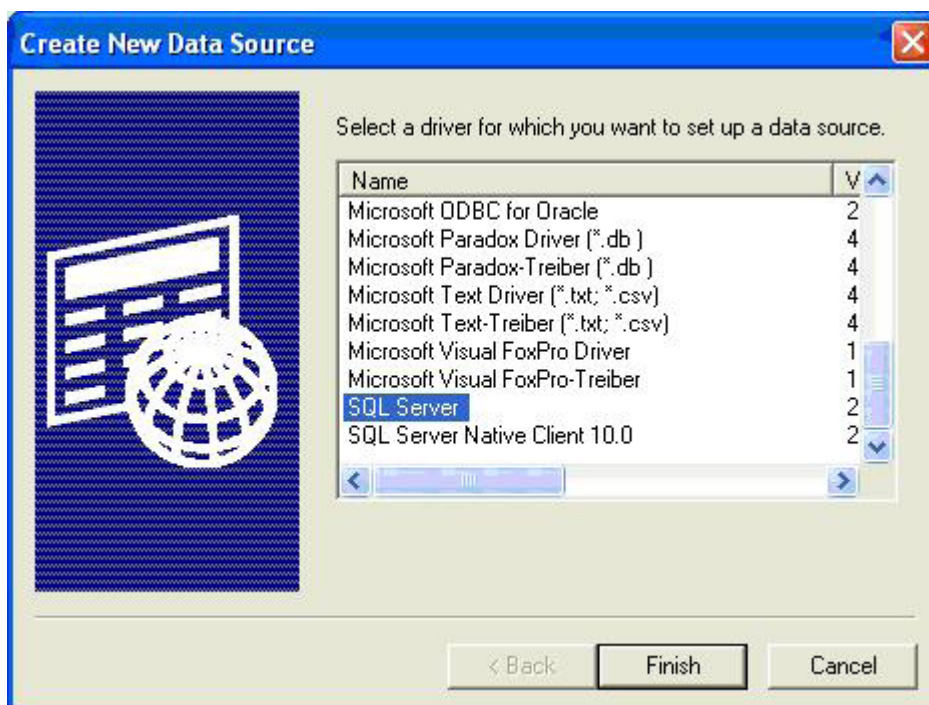
3. Click **Create / Edit DSN**

CONFIGURING LOCKVIEW FOR SQL *continued*

4. Click the **System DSN** tab then click **Add**

    Note: If opening the ODBC manager manually, you must use the 32 bit version found under C:\Windows\SysWow64\ odbcad32.exe

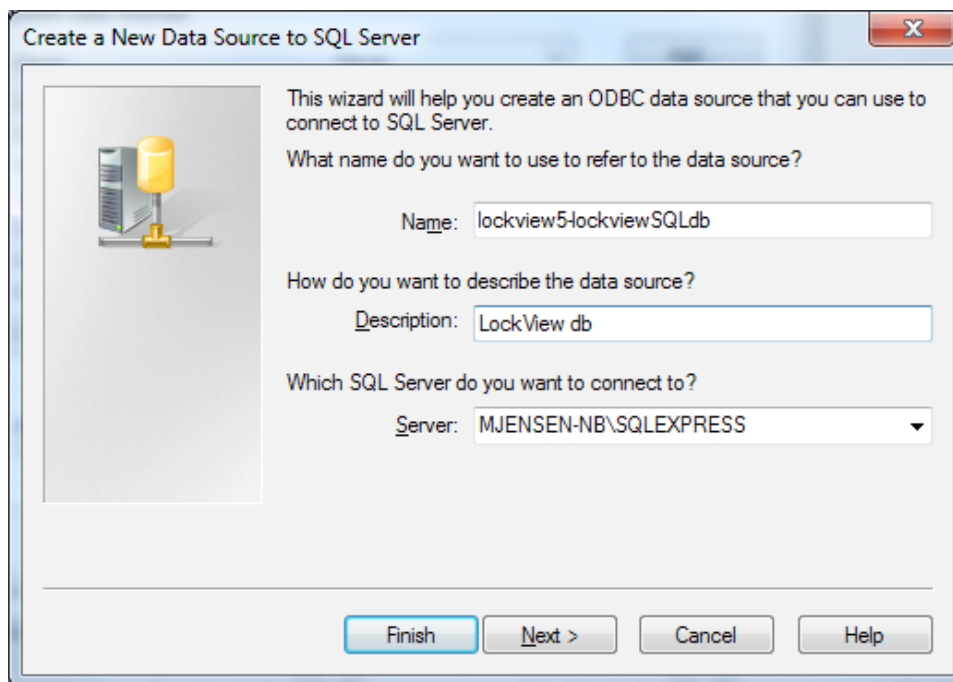5. Select **SQL Server**, then click **Finish**

CONFIGURING LOCKVIEW FOR SQL *continued*

6. Enter in the following information
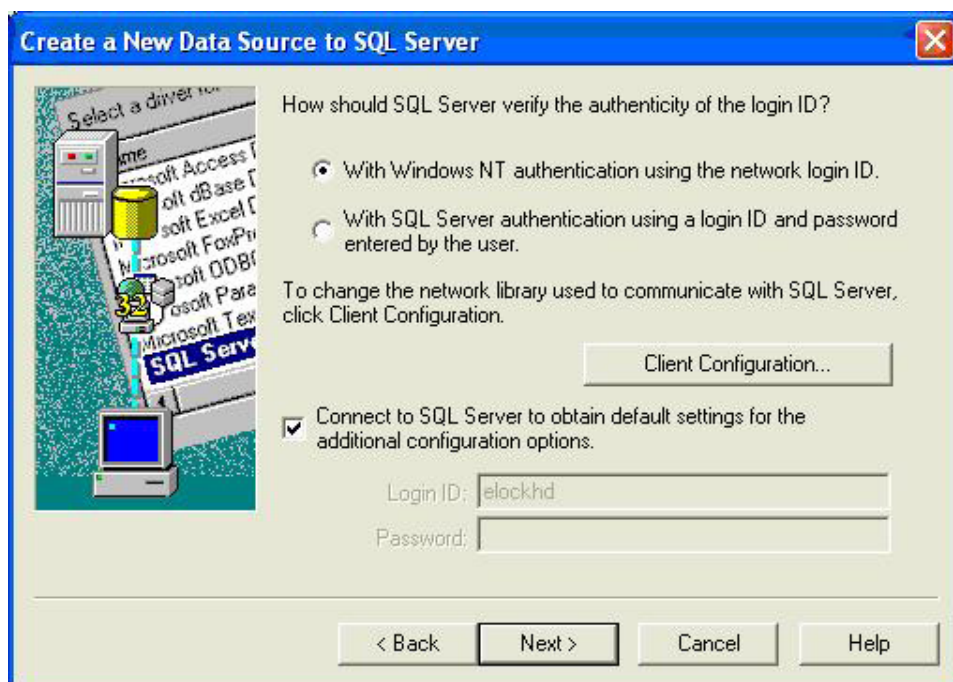   Name: LockView5-LockViewSQLDB
   Description: LockView db
   Server: (Server Name)\(Instance Name)

   Note: For Lockview5/5Pro to read an ODBC source it **MUST START EXACTLY WITH [LOCKVIEW5-] – NO BRACKETS**. LockView SQL DB is an example; any name may be used, provided it starts LockView5-.
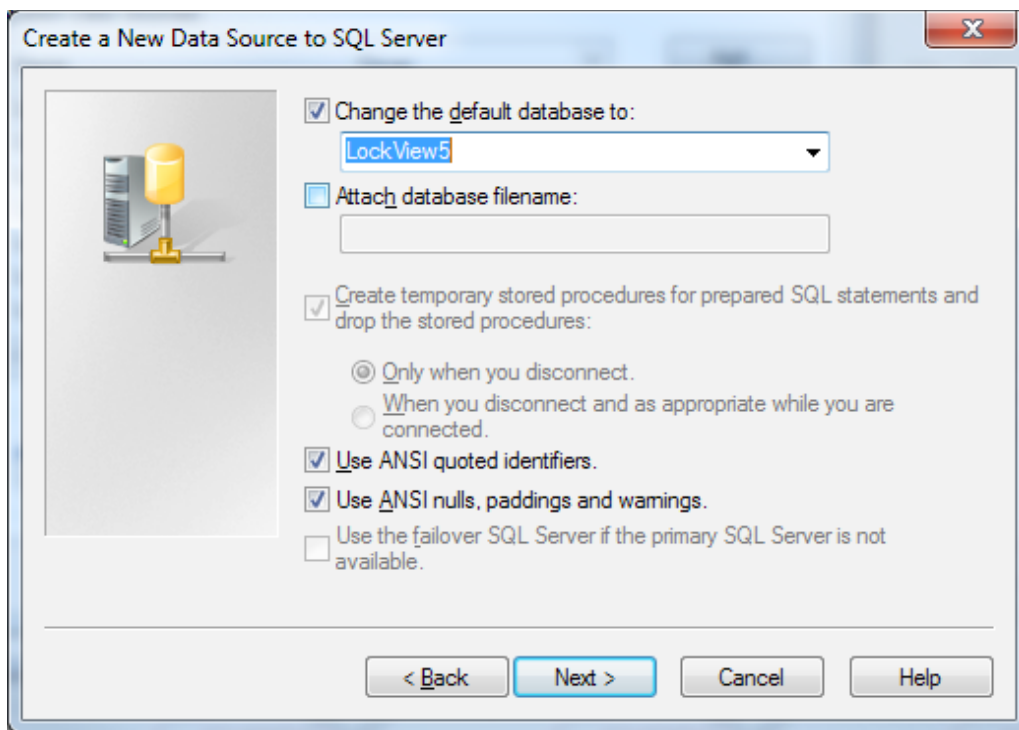
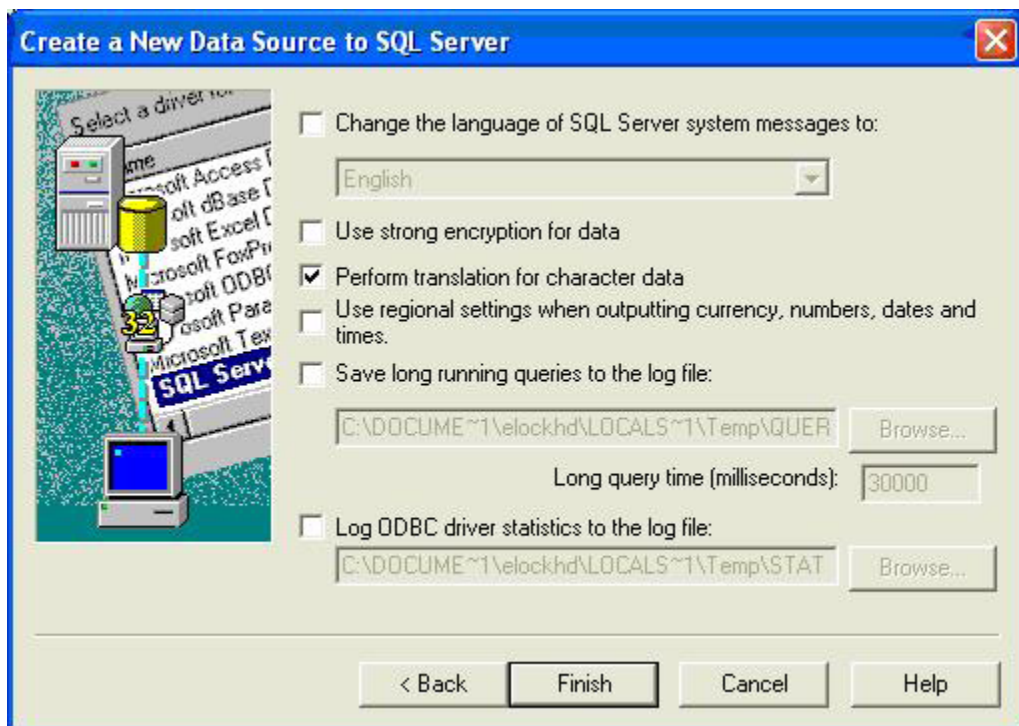   Then click **Next**

7. Verify settings, then click **Next**

CONFIGURING LOCKVIEW FOR SQL *continued*

8. Select "**Change the default database to**" then from the drop down box, select **lvServer**, then click **Next.**
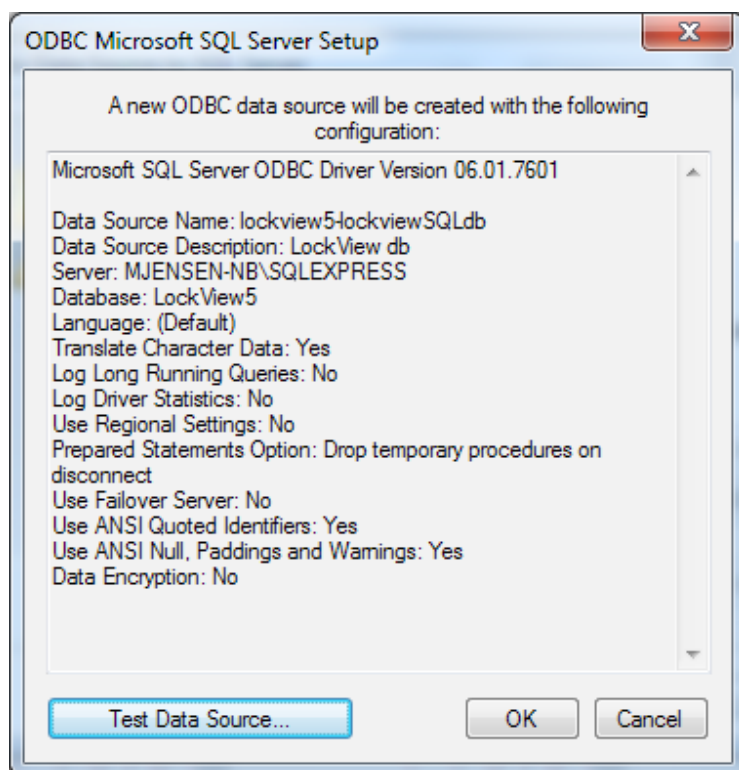

9. Click **Finish**

CONFIGURING LOCKVIEW FOR SQL *continued*

10. Click **Test Data Source**

11. Click **OK**
    Close all open Windows
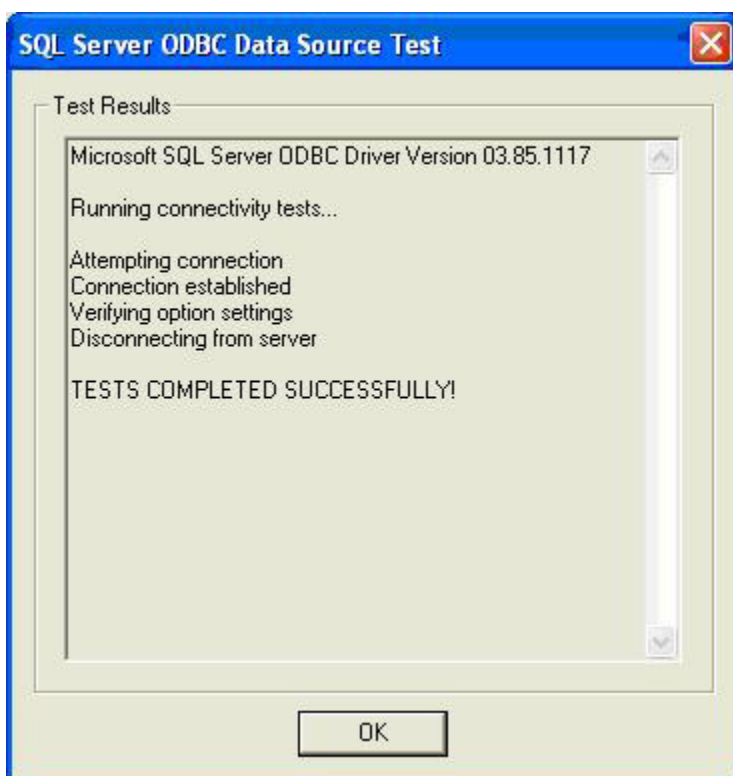
CONFIGURING LOCKVIEW FOR SQL *continued*

12. From the desktop, launch LockView5
    Click **Yes**
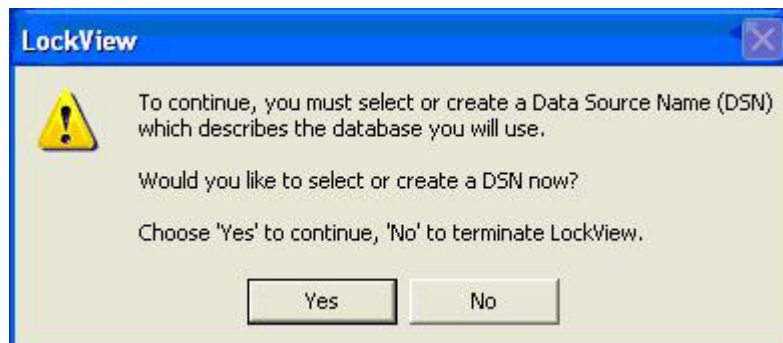
13. From the dropdown list select 'lockviewSQLdb' or whatever the DSN was named in step 6. Lockview5/5Pro in this example is the default Access Database that was created with Lockview5/5Pro Install.

14. Login using default username and password:
    Operator Name = admin
    Password = admin

    Click **OK**.

SETTING UP THE NETWORK MODULE

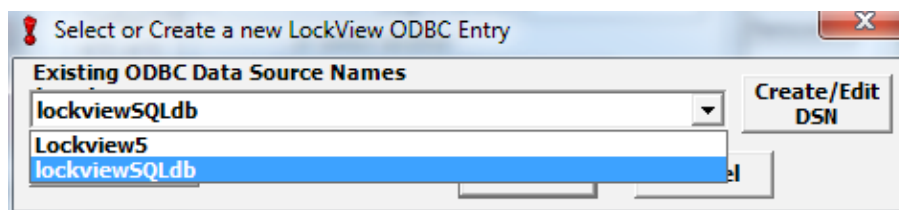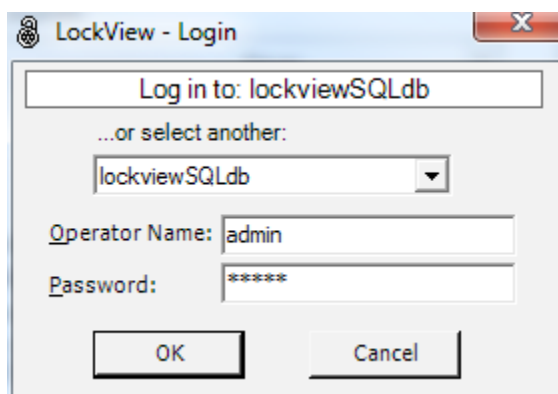## The following information is required to setup the network module.

- ◆ The IP Address of the LockView Server
- ◆ The SSID of the wireless access points on the network where the system is being installed (if using 802.11g wireless module)
- ◆ The type of wireless security enabled on the wireless access point, as well as the password/encryption key

To verify the IP address of the LockView 5 Lock Server, follow the steps below:
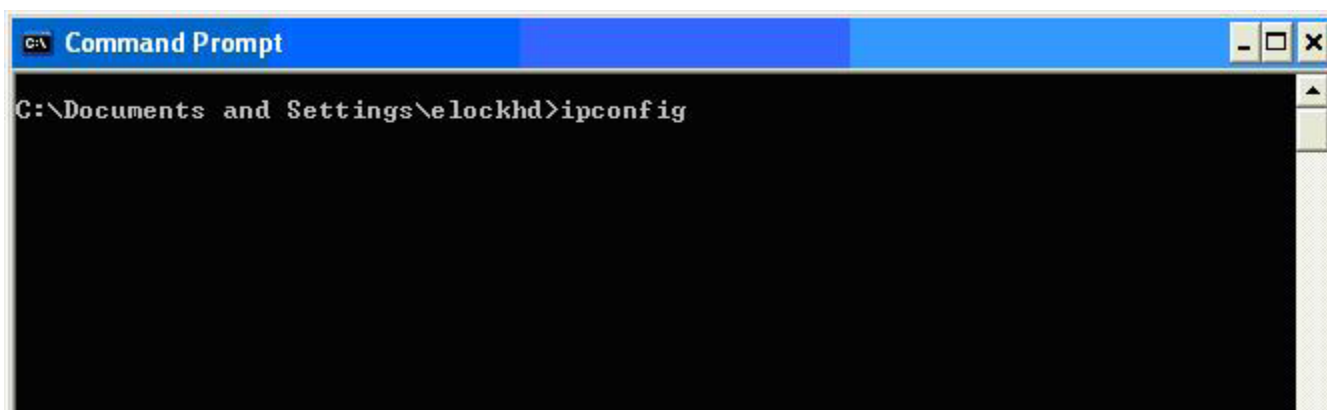
1. Go to **Start - Run** on the Lock Server computer.

2. Type **cmd**, then press **OK**
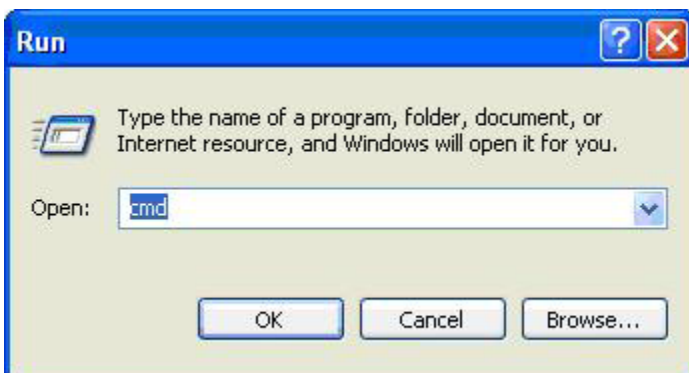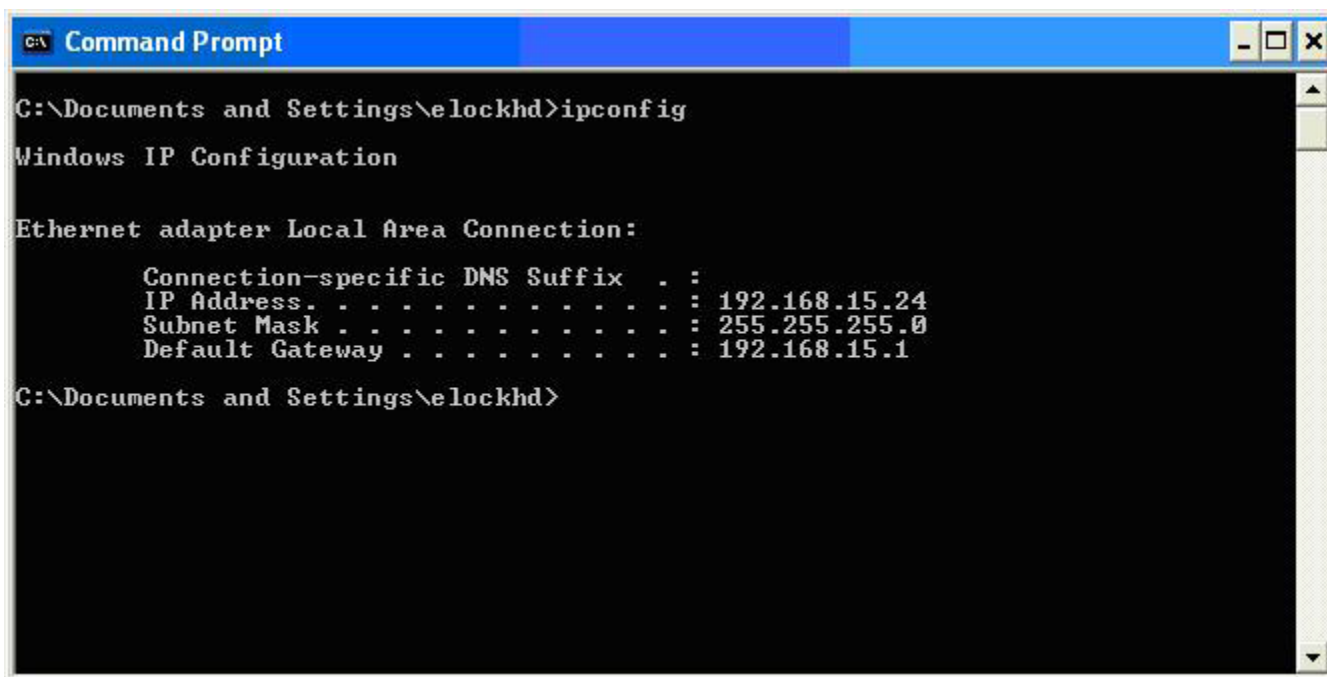
SETTING UP THE NETWORK MODULE continued

3. Type **ipconfig**

```
C:\Documents and Settings\elockhd>ipconfig
```

4. Write down the IP Address for the Lock Server computer, then close this cmd window

```
C:\Documents and Settings\elockhd>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        IP Address. . . . . . . . . . . . : 192.168.15.24
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.15.1

C:\Documents and Settings\elockhd>
```

5. Attach a USB cable to the eLock and to a USB port of the computer.

SETTING UP THE NETWORK MODULE continued

6. If the 'Found New Hardware Wizard' starts, click **Next**
    The USB Driver should be installed during LockView install.
    If needed for reinstall, the drivers can be downloaded at **http://compx.com/lockview/drivers.html**

7. Click **Finish**

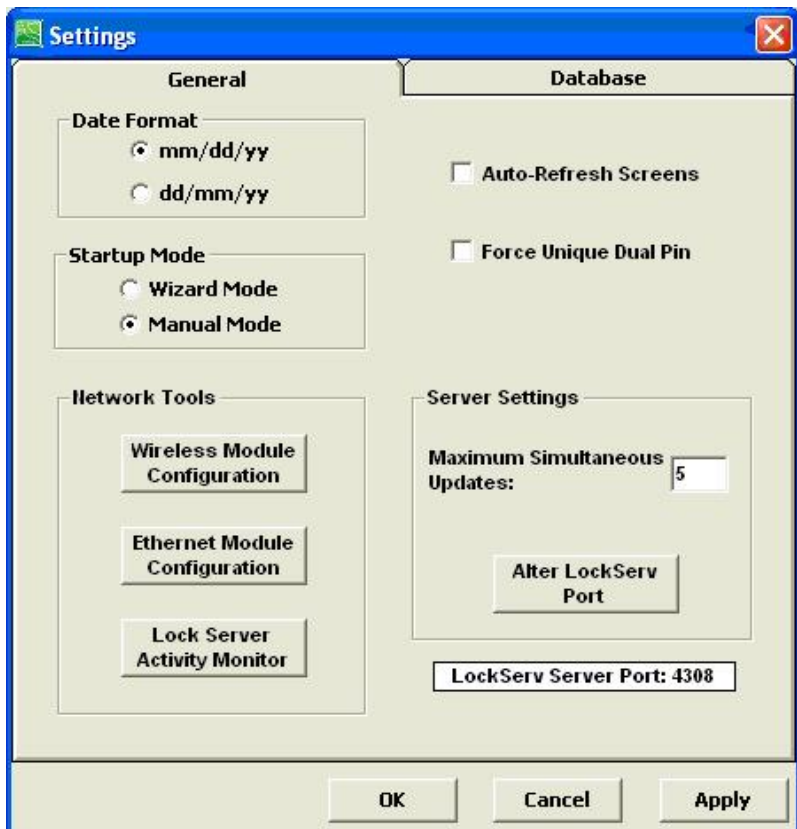## SETTING UP THE NETWORK MODULE *continued*

8. With the USB cable attached, the Read / Write Lock icon turns Green. Click **Settings.**

9. If the lock has a network module and it needs to be configured, click **Wireless Module Configuration**. If the lock has a CAT5 Ethernet and it needs to be configured, click **Ethernet Module Configuration**.

    For this example a Wireless Module using DHCP and WPA2 is being set up:

    Note: the lock must be in the database to configure the lock and network module. Please see page 17 in the LockView Software Instruction manual.

SETTING UP THE NETWORK MODULE continued

10. For this example, DHCP is selected. Alternately, a static IP address can be assigned to each lock. Extreme care must be used to ensure unique IP addresses.

Enter in the SSID of the wireless network or Click '**Available SSIDs**' to search.

Enter the Lock Server IP address (obtained on page 36)

Enter the TCP/IP port number of 4308

Select and enter the appropriate Wi-Fi security protocol and password.

SETTING UP THE NETWORK MODULE *continued*

11. Once all settings have been entered, click **Save Settings to Module**.
    The software will then connect to the lock. This is noted by a status bar near the bottom of the screen as well as the connection status will change in the upper right corner of the window.
12. If using Enterprise Security with Certificates, please reference the Certificate Help Page.

LockView Certificate Help

General requirements:
 -PEM format required (Base64 encoded)
 -Multi-Cert files may be used but only the first certificate of the file is loaded
 -Private Keys must be in PKCS#1 (RSA) encrypted format
 -Username Examples: username@fqdn, domain\username
 -Domain\Username is Required when using Enterprise Security. The domain\username should match the username within the certificate (if using certificates)
 -Root Server Certificate is REQUIRED (if using Root Server CA); Subordinate CA certificates are not acceptable

Details:
 -A Cert's data consists of BEGIN and END lines, plus what lies between
 -The first line of a Cert begins with '-----BEGIN'
 -The first line of a Private Key begins with '-----BEGIN RSA'
 -Both end with a line which starts with '-----END'
 -Any lines outside of the first detected BEGIN and END lines are ignored.
 -Each line must be delimited by one or more of <CR>, <LF> and/or SPACE

[OK]

NETWORK TOOLS

LockView is provided with a set of network tools to help diagnose network / IP address / Wi-Fi / Database problems. To use, click on Settings:
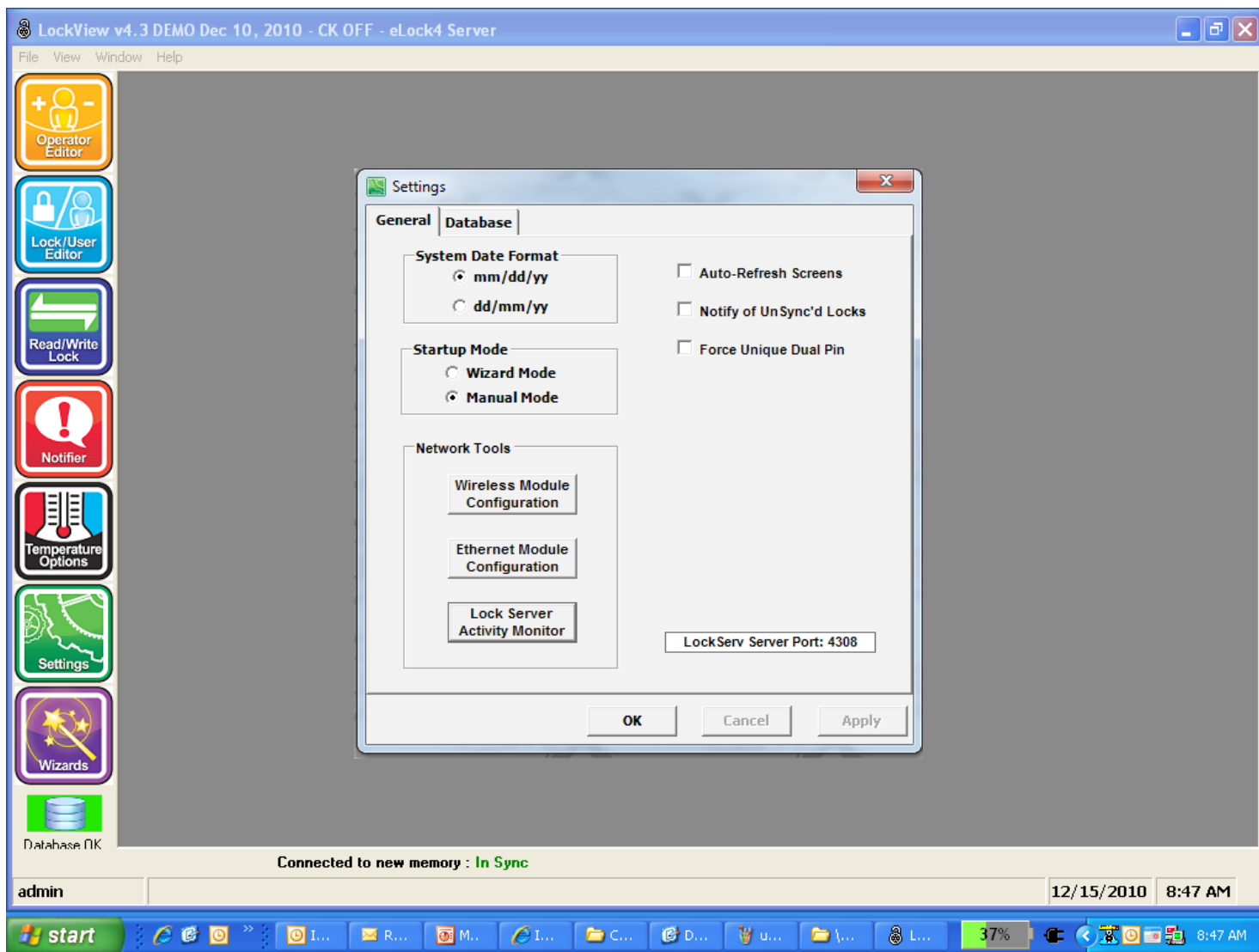
With the USB cable attached to the laptop and the eLock, select the type of Network Module provided - Click either:

- **Wireless Module Configuration**
  (In this example Wireless Module Configuration is chosen)
  To use network tools on a lock with a wireless module

  – OR –

- **Ethernet Module Configuration**
  To use network tools on a lock with an Ethernet module
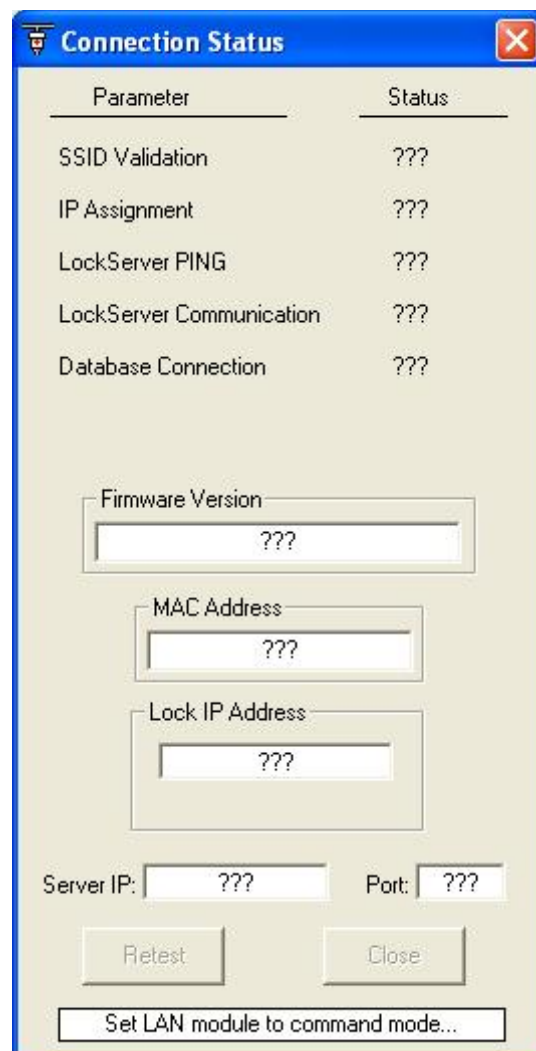
NETWORK TOOLS continued

At the bottom of the screen above, there are the following options.

- **Show Most Recent Settings** - Shows the most recent settings that were saved to a module.
- **Show Module Settings** – Connects to the Wireless/Ethernet module and displays current settings.
- **Test Connection** – Runs various tests to confirm that the current settings are able to connect to the network, the Lock Server, and the database. It will also show the currently assigned IP Address and MAC Address of the module.
- **Save Settings to Module** – Allows changes to be saved to module.

NETWORK TOOLS continued

Test Connection

1. With a lock connected through USB, click on **Test Connection** within **Wireless/Ethernet Module Configuration**

2. A Connection Status window will pop-up and start communicating with the module
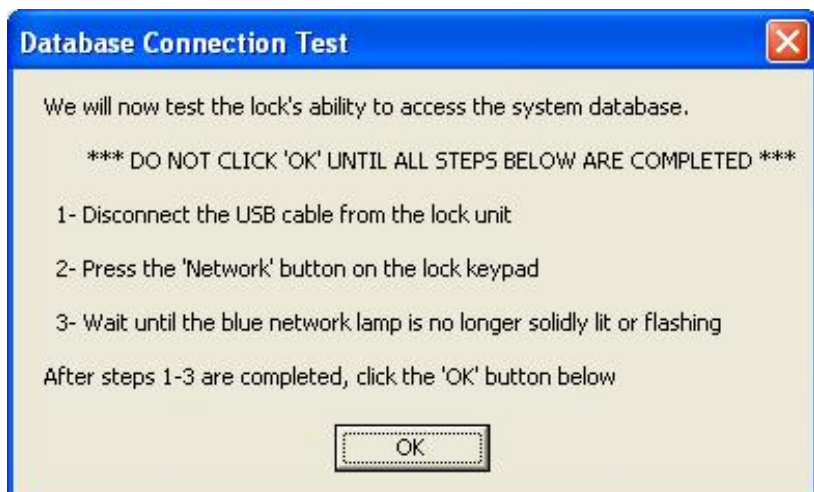
3. A pop-up then requests that the USB cable is disconnected. Press the 'NETWORK' button located on the front of the lock to initiate a network connection and lock update.

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NETWORK TOOLS *continued*

4. Once the "NETWORK" light has stopped flashing on the keypad display, reconnect the cable and hit 'OK.'

   If there is a failure at any time, click "**Analyze Failure**" for possible solutions to the problem.

5. If a test fails, select '**Analyze Failure.**'
   Below is a list of possible problems and what to check:

   Update Issue
   What went wrong: The database did not update when the lock called in.
   What to check: Ensure the databases selected here and on the server are the same.

   Missing Records
   What went wrong: The database does not contain data for this lock.
   What to check: Ensure the databases selected here and on the server are the same.

   Communication Glitch
   What went wrong: Data was lost or corrupted during communication with the lock/module.
   What to check: This is not a network issue, but an internal dataflow error; ensure cabling is intact and try retesting.

   Socket Issue
   What went wrong: The wireless module could not open a TCP socket to the server.
   What to check: First, retest; failing that, ensure the server is configured to accept incoming connections on the designated port.

   PING Issue
   What went wrong: The server did not respond to a PING from the module.
   What to check: First, retest; failing that, ensure the module was programmed with the correct server IP.

   Server Undefined
   What went wrong: The server IP and Port parameters are not known.
   What to check: Verify this module has been programmed. If so, the programming may have failed to take. Return to Configuration screen, 'Save Settings to Module' again, and ensure the save reports success.

   DHCP Issue
   What went wrong: The module did not get an IP dynamically assigned.
   What to check: First, retest; failing that, re-evaluate the module settings; it was not able to gain network access.
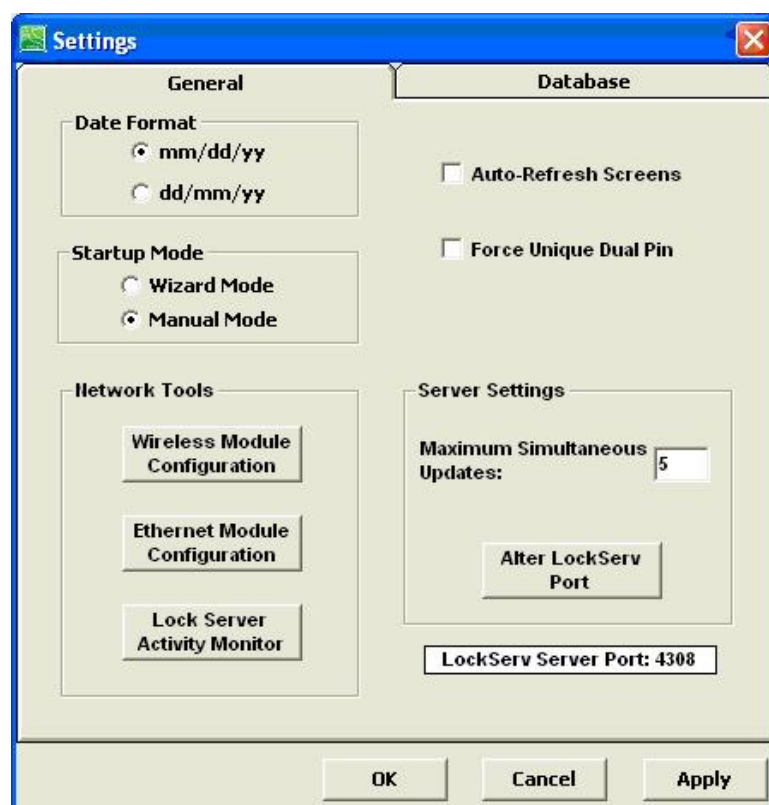
NETWORK TOOLS *continued*
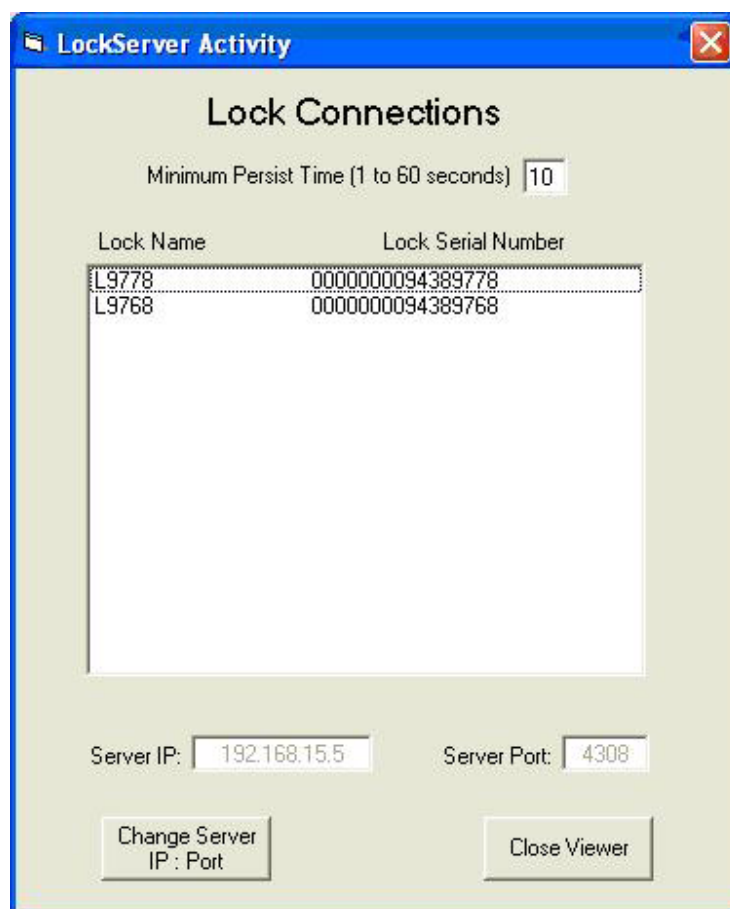
LockServer Activity Monitor

Once locks are setup properly they 'check-in' to the lock server through the Activity Monitor.

Click '**LockServer Activity Monitor**'

The LockServer Activity screen will pop-up.

As locks connect to the lock server, their lock name and serial number appear in the window.

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LockView® Keyless Entry 5

DATABASE AND NETWORK CONFIGURATION AND INSTALL MANUAL

Snap-on®