RISA Network Installations

Rapid Interactive Structural Analysis

Installation Guide (with Sentinel LM license management software)

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Network Installation

These instructions are intended for the network versions of the RISA programs (3D, 2D, Floor, Foundation, Tower, and Masonry). If you are running a Stand Alone version, refer to the Stand Alone Installation Instructions provided with your software.

The network version of the RISA software uses a customized version of Sentinel LM to manage and administer the licensing. The details of your software license are contained within a license file. Therefore, you must obtain a license file from RISA Technologies and register it with the Sentinel License Management server. If you do not already have a license file, then you must request one by sending an e-mail to license@risatech.com. When you e-mail your request make sure to include the Company Name, Product(s), and the Key ID. For more information, refer to section **B.** sub-section **1. Obtaining the Server License File**.

The network versions of the RISA programs have been written specifically for 32 bit Windows operating systems. More specifically, they are written for Windows 2000/ME/XP and Vista.

The network version of RISA is designed such that the application itself is stored and run entirely on the *Client* computer. The *Data Server* is used only to store the data files for setup / installation. In addition to the data server, there must be a *License Server* computer that will host the license management software. In many cases, the *Data Server* and the *License Server* will be the same computer.

A new or upgrade installation is a normally three part process (A, B and C) as summarized below. Each step is explained in greater detail in the appropriate section.

  A. <u>**Perform the installation on the Data Server**</u>: This involves copying data files onto the computer that will act as the *Data Server*. This must be done for new installations and for an upgrade /update to an existing program. Note that NO drivers are installed on the data server during this step.

  B. <u>**Install (or Update) the License Manager**</u>: This involves installing the license manager (Sentinel LM) onto the *License Server* computer that will *host* the license management software. For most cases where RISA's customized version of the Sentinel LM service is already running, this will involve a simple update rather than a full install.

  C. <u>**Perform the Client Installation**</u>: This involves installing the program on the end user's computer. If you want to, you may set up a silent installation and initiate the *Client* installation through the registry or log-on scripts. For an update / upgrade to an existing program, this installation may be performed automatically.

When adding a new product to, or removing a product from, an existing installation, there is an additional step that will be needed. This is described in the following section. Note: this section does NOT normally apply when upgrading an existing product to a newer version.

  D. <u>**Using an RUS password to Update the Hardware Key**</u>: When adding a new product to, or removing a product from, an existing installation, you will use the RISA Key Manager utility along with the RUS password provided from either a **red** Installation Information sheet or via email to update your Sentinel Pro hardware key.

In addition, we have added sections regarding some of the other administrative functions. These instructions are brief and are intended only to be a simplified introduction to the concepts. For a more complete explanation, see the Sentinel Website (www.safenet-inc.com) or contact RISA technical support (support@risatech.com).

  E. <u>**Troubleshooting the Sentinel LM Installation**</u>: Contains a brief explanation of the most common installation problems and potential solutions.

  F. <u>**Commuting Licenses:**</u> A brief overview on how to commute licenses and control the amount of commuting that is allowed.

  G. <u>**Usage Reports and License Monitoring:**</u> A brief overview on how to setup usage reports regarding the use of the programs.

A. Server Installation

To create the necessary data files on the Data Server please follow these instructions:

1) Put the RISA CD in the *Data Server*'s CD drive.

2) If the CD starts automatically go to step 4. If after 15 seconds the CD has not started click the Windows **Start** button and select **Run**.

3) In the Run dialog box type "d**:launch**" (where "d" is the label of your CD drive) and then click the **OK** button.

4) Follow the on-screen instructions.

NOTE : No drivers are installed onto the data server during this step.

Updating a previous version: When upgrading from a previous version that did NOT use the Sentinel License Manager there will NOT be an automatic upgrade of the client computers.

When upgrading from a previous version that DID use the Sentinel License Manager, the client upgrades will happen automatically. However, this will only occur if you maintain the appropriate sub-directory structure on the Data Server. This is because an upgrade is only detected when a client computer looks at the subfolders under the ProgramServer directory. These folders will follow this naming convention:

G:\RISA\ PROGRAMSERVER \ VERSION NUMBER\

Where "ProgramServer" is the Data Server directory for that RISA product (3DServer, FloorServer, etc.) and where the "Version Number" directory refers to the version number for that program (e.g. 5_5). The Version Number directory contains all the current installation information from that version (5.5). When the program detects another subfolder (e.g. G:\RISA\ 3DSERVER\ 5_6) it will interpret this to mean that an updated version of the RISA-3D program is available.

For the remainder of the instructions, the folder in which you install will be referred to as PROGRAMSERVER and the version of the program will be referred to as VERSION NUMBER

Locating the License Manager Files

During a Data Server installation of your RISA program, a "..\Sentinel LM Server\" directory will be created under the "\PROGRAMSERVER\ VERSION NUMBER \" directory. This folder will contain the following files specific to the Sentinel License Manager:

loadls.exe   – Installs Sentinel LM as WinNT service
lservnt.exe   – Sentinel LM (WinNT/2000/XP version) executable
lsapiw32.dll   – Required by WlmAdmin.exe
WlmAdmin.exe   – Administers LM server / licensing present on local subnet

Locating the SuperPro Device Drivers

During a Data Server installation of your RISA program, a "..\Sentinel Protection Installer\" directory will be created under the "\PROGRAMSERVER\ VERSION NUMBER \" directory. This folder will contain the following files specific to the installation of the Sentinel Pro device drivers:

SetupSPI.exe   – Installation routine for Sentinel SuperPro drivers

ReadMeSPI.pdf   – Detailed Installation instructions from Sentinel

Locating the Key Manager Utility

During a Data Server installation of your RISA program, a "…\RISA Key Manager\" directory will be created under the "\PROGRAMSERVER\ VERSION NUMBER \" directory. This folder contains a utility created by RISA Technologies that may be used for diagnosing problems related to the Sentinel SuperPro hardware key.

B. Installing the License Manager (Sentinel LM)

After the Data Server installation has been completed, the following steps must be taken to ensure the proper installation of Sentinel License Management software. Each step is explained in greater detail in the following sections.

For cases where RISA's customized version of the Sentinel LM service is already running, this will involve a simple update rather than a full install.

For most updates, only steps 1) and 4) will be required.

1) Obtain the RISA license file
2) Install the Sentinel Pro device driver
3) Install or Update RISA's customized version of Sentinel LM on the License Server
4) Configure Sentinel LM License Server to work with the new license file

1. Obtaining the RISA License File

RISA Technologies will ship a Sentinel SuperPro hardware key which will be used to secure your network installation. Each key will have a unique KeyID.

You will need to request a license file from RISA Technologies. You may do so by e-mailing license@risatech.com with your company information, product information, and the program serial number(s) or Key ID. RISA Technologies will then send you a license file in return.

The license will have a name similar to "RISA_LM_KeyID", where KeyID corresponds to your USB key. In some cases, the file may be called "RISA_LM_CompanyName", where CompanyName is the name of your company. This file is a unique identifier / license file for your RISA programs. The generated license will be locked to your KeyID. Each time RISA is launched, Sentinel LM will validate the license to ensure that the key is present. This file needs to be updated for each new release or whenever you add or reduce the license the license count of your network version of the RISA program.

2. Installing the Sentinel SuperPro device driver

Copy the Sentinel Protection Installer directory onto the License Server computer which will host the Sentinel LM Service. This computer need not be an actual server. All that is required is that it be running 2000/XP/Vista and be connected to the same Subnet as the typical client computer.

*Note: If your License Server and client computers will NOT be connected to the same Subnet, refer to the section on **Troubleshooting the Sentinel LM Installation.***

MAKE SURE you remove ALL of the Sentinel SuperPro and Rainbow keys from your computer BEFORE you initiate the installation. Then run the SetupSPI.exe file that exists in that directory. This will launch the InstallShield Wizard for the SuperPro device drivers. Follow the on screen instructions to complete the installation of the SuperPro drivers. We recommend that you select the "complete" install.

3. Installing (or Updating) Sentinel LM on the License Server

Installing a new Sentinel LM Service: RISA runs a customized version of Sentinel LM. If you are already running a non-customized version of Sentinel LM refer to the next section on updating a Sentinel LM service. If you are running another version of Sentinel RMS, refer to the Trouble Shooting section for a discussion on this topic.

- Copy the SentinelLM directory onto the computer which will host the Sentinel LM service.

- Run the loadls.exe utility. When the loadls dialog box appears click the "Add" button. Sentinel LM has now been installed as a WinNT service.
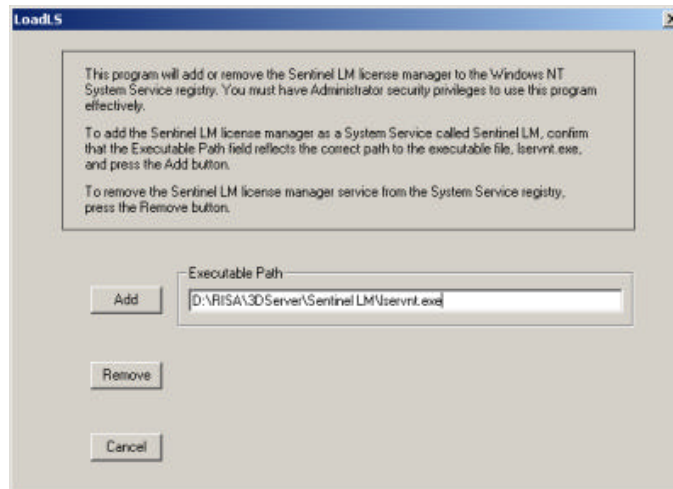
- Plug the Sentinel Key into a USB port on the License Server computer which will host the Sentinel LM Service.

Updating an Existing RISA Service: If this version of the program requires an update to the Sentinel LM service itself, then the quickest way to accomplish this is to go to Services settings on the LM Server (Windows Control Panel – Administrative Tools – Services).

   a. You would find the "Sentinel LM" service listed there and then STOP that existing service.

   b. Next you would replace the old LSERVNT.EXE with your new updated one. If you do not know where the existing executable is located, you can look at the General Properties of the existing Sentinel LM service and it will give you a "Path to Executable" where the LSERVNT.EXE resides.

      c. Once you have replaced the old executable with the new one, all you need to do is re-start the service and you will have completed to update of the LM Service itself.

Note: RISA uses a CUSTOMIZED version of Sentinel LM. Therefore, you cannot load the RISA license file onto an existing copy of Sentinel LM. This customized version is capable of loading the license files for most other applications. However, any application that requires its own customized version will not function from within RISA's.

If you are running a version of **Sentinel RMS**, refer to the Trouble Shooting section for a discussion on this topic.

4. Configuring the Sentinel LM license

- Locate the WlmAdmin.exe utility on the Sentinel LM Host computer. It should exist in the "..\Sentinel LM Server\" directory.

- Run WlmAdmin utility and open the "**Subnet Servers**" tree on the left hand side of the WlmAdmin dialog. The License Server computer should appear under "Subnet Servers". If it is not listed then client computers may not be able to "see" the host computer. In this case, you will have to select Edit – Defined Server List from the Main Menu Toolbar, and add your server to the list. Also refer to the Trouble Shooting section for reasons why the server may not appear under the sub-net server list.
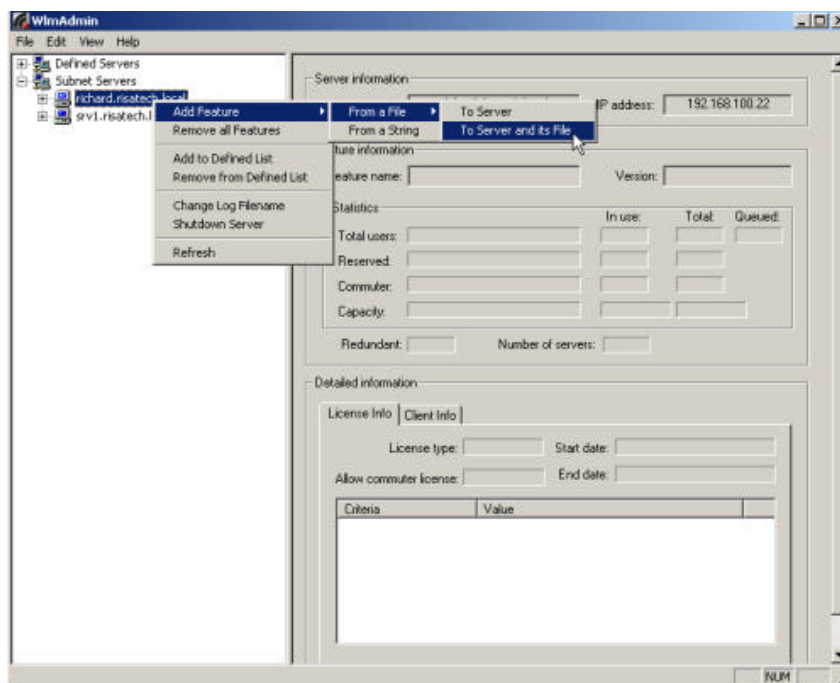
- The license file obtained from Step 1 will now be needed. Make sure this license file is in an accessible location. Right click on the License Server and select **Add Feature** -> **From a File** -> **To Server and its File**. If the licensing file is not accepted, see the section on Troubleshooting.

- From the Open dialog, browse to the license file (RISA_LM_KeyID) location and open it. Once the license has been accepted Sentinel LM can issue network license tokens for your RISA program.

C. Client Installation

For first-time installations and manual upgrades: You may perform the client installation in one of two ways as outlined below. Either method requires write privileges to the HKEY_CLASSES_ROOT and HKEY_LOCAL_MACHINE registry keys.

For upgrading a previous version: When upgrading from a previous version that did NOT use the Sentinel License Manager there will NOT be an automatic upgrade of the client computers.

When upgrading from a previous version that DID use the Sentinel License Manager, the client upgrades will happen automatically. However, this will only occur if you maintained the appropriate sub-directory structure on the Data Server. This is because an upgrade is only detected when the program looks at the subfolders under the ProgramServer directory. These folders will follow this naming convention:

G:\RISA\ PROGRAMSERVER \ VERSION NUMBER\

Where "ProgramServer" is the Data Server directory for that RISA product (3DServer, FloorServer, etc.) and where the "VERSION NUMBER" directory refers to the version number for that program (e.g. 5_5). The Version Number directory contains all the current installation information from the previous (5.5) version. When the program detects another subfolder (e.g. G:\RISA\3DSERVER\5_6) it will interpret this to mean that an updated version of the program is available.

Method 1 – Manual Installation

From the client, execute the setup.exe file that is located in PROGRAM SERVER \ VERSION NUMBER. This will prompt you with a series of dialogs that will guide you through the client installation.

Method 2 – Silent Installation

You may use a silent installation to avoid interacting with the client installation dialogs and you may automatically run the silent setup in a log-on script or through the registry. Silent setup uses the SETUP.ISS file in PROGRAM SERVER \ VERSION NUMBER to guide the client installation. This file, as provided, will install the above files to the client's **C:\RISA** directory and place a program shortcut in the **RISA** folder on the Start-Programs menu.

To execute the silent installation from the client, execute the setup.exe file with the "-S" switch. The entire command line would look something like this:

> **G:\ PROGRAM SERVER \ VERSION NUMBER \setup.exe –s**

Where G is the mapped drive for the directory that contains PROGRAM SERVER \ VERSION NUMBER. This can be called through a DOS prompt on the client, a log-on script or client registry entry.

To record a new or customized SETUP.ISS file, you can use the "-r" switch. This initiates a new client setup and will record all the information that you enter during the setup. The SETUP.ISS file will need to be copied from the C:\WINDOWS folder on the client computer to the PROGRAM SERVER \ VERSION NUMBER directory before it can be used for a silent install.

> **G:\ PROGRAM SERVER \ VERSION NUMBER \setup.exe –r**

If you wish to manually change the Path or Country options, you can do this by editing the SETUP.ISS file in PROGRAM SERVER \ VERSION NUMBER.

To change the PATH into which the client version gets installed, you would edit the "szDir" value.

To change the Country option, you modify the following block:

```
[{C284358F-CF55-4A86-BF30-159BD5961DFF}-AskOptions-0]
Result=1
Sel-0=1     [United States]
Sel-1=0     [Canada]
Sel-2=0     [British]
Sel-3=0     [Europe]
Sel-4=0     [India]
Sel-5=0     [Australia]
Sel-6=0     [New Zealand]
```

The country names are added here for clarity, they do not show up in the setup.iss file. This file is setup for United States because the option Sel-0=1. If you wanted India to be the selected country you would change the Sel-0=0 and then Sel-4=1. It is very important that ONLY a single option has a "1".

SILENT INSTALLATION ERROR MESSAGES

Be aware that no messages are displayed when running a silent installation. You may view the Setup.log file to determine the result of the setup. To verify if a silent setup succeeded, look at the ResultCode value in the [ResponseResult] keyname. InstallShield places one of the following return values after the ResultCode keyname:

0	Success
-1	General Error
-2	Invalid Mode
-3	Required Data not found in the Setup.iss file
-4	Not enough memory available
-5	File does not exist
-6	Cannot write to the response file
-7	Unable to write to the log file (see below)
-8	Invalid path to the response file
-9	Not a valid list type
-10	Data type is invalid
-11	Unknown error during setup
-12	Dialog boxes are out of order
-51	Cannot create the specified folder
-52	Invalid option selected

If the log file cannot be written because of read only privileges you will have to redirect the log file to a directory with write permission using the following switch:

**-f2<path\LogFile>   (don't type the <> symbols)**

To redirect the log file the example above would now look like this:

G:\PROGRAM SERVER\VERSION NUMBER\setup.exe –s –f2g:\okfolder\setup.log

D. Using an RUS password to Update the Hardware Key

Typically, you will only need to update the hardware key on your license server when you adding new products or removing products. To update the key, you will want to run the utility "RISA KEY MANAGER.EXE" on the License Server, this utility can be found in the "**G:\ PROGRAM SERVER \ VERSION NUMBER \RISA Key Manager"** folder.

You will then be presented with a Key Manager window similar to the one shown below.
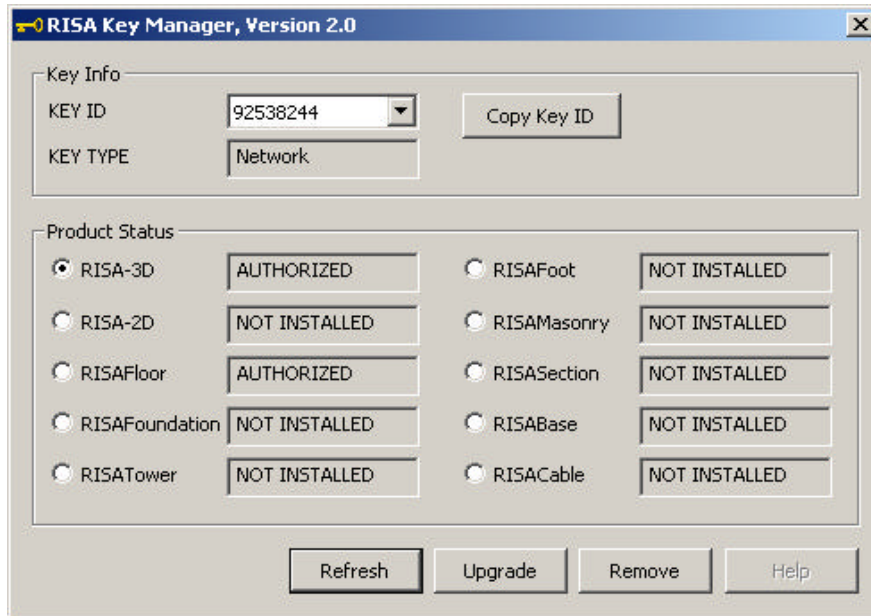
Verify that the Key ID listed on your RUS Update / Installation Information sheet corresponds to the Key ID listed on screen. Then select the RISA program that you wish to authorize on the key. Click the **Upgrade** button. You then enter in the RUS password given on your red installation sheet and click Update.

E. Trouble Shooting Sentinel LM Networking

There are a number of common issues that you may encounter while installing or using the network version of the RISA programs. This can be grouped into the following main categories:

1) You receive Error Code 19 when adding your license file
2) Your client computers cannot access your LM Host computer or the access is very slow
3) Network version stops working or your Client computers get an error message at start-up

1. You receive Error Code 19 when adding your license file

- **Loading the RISA License File onto a non-customized Sentinel LM host:** RISA uses a CUSTOMIZED version of Sentinel LM. Therefore, you must remove the existing copy of Sentinel LM and replace it with the customized one provided with your RISA installation.

  It is not good enough to merely stop that old Sentinel LM Service. It must be "removed" using the LOADLS utility that was used to install it.

  RISA's customized version of Sentinel LM is capable of loading the license files for most other applications. However, any application that requires its own customized version will not function from within RISA's.

- **Two Instances of Sentinel LM are running on the same computer:** If you look at the list of services (Control Panel – Administrative Tools – Services), you may find that there are TWO services running. One will be called "SentinelLM" (no space) and is the standard non-customized version. The other will be called "Sentinel LM" (with a space between words) and is the customized version provided by RISA.

  It is not good enough to merely stop that old SentinelLM (no space) service. It must be "removed" using the LOADLS utility that was used to install it.

- **A non-customized copy of Sentinel RMS is running on that machine:** If you look at the list of services (Control Panel – Administrative Tools – Services), you may find that there is a service running that is called "SentinelRMS (no space). This is the standard non-customized version of sentinel RMS is not compatible with RISA's customized version of Sentinel LM. This is a common requirement from some of our competitors (CSI). If this is the case, and you required that the RISA license manager be loaded on the same server, then you will have to contact RISA Technologies (support@risatech.com) to obtain a customized version of Sentinel RMS that is compatible with programs that require Sentinel RMS.

- **Loading a license file onto an older version of Sentinel LM:** The customized version of RISA that was loaded with version 5.5 of RISA-3D, version 2.0 of RISAFloor, or version 6.5 of RISA-2D was not set up to run the other RISA programs (Foot, Base, Tower, Masonry, et cetera). Therefore, you may need to stop the existing Sentinel LM service and replace it with the newer version. You can do this by stopping the service and replacing the LSERVNT.EXE file with the newer one provided with your newest RISA installation.

- **The USB key is not present or cannot be read properly:** If the licensing file was not accepted when you tried to use the Add Feature utility, first verify that the Sentinel Key is plugged into a USB port on the computer which will host the Sentinel LM service. When it has been plugged in a green light will appear on the key indicating that it is receiving power.

  Also run the RISA Key Manager utility and make sure that that the key has the proper KeyID, is a network key and authorized for the appropriate programs.

- ***The license file information doesn't match with the USB key:*** If the information encrypted into the license file (KeyID and program authorization) doesn't match the information on your USB key you will receive error code 19. Contact RISA technical support (support@risatech.com) for a new license file or for an RUS password to update the information on your USB key.

2. Your client computers cannot access your LM host computer

- ***Client computer cannot access an LM host that resides on the same Subnet:*** If you are running Windows XP with Service Pack 2 and your client cannot access the Sentinel LM Service, then you may be dealing with a firewall issue. This could be an issue with the HOST, CLIENT, or with your network in general. If your firewall is a Windows XP firewall, then the settings can normally be manipulated by going to the Windows Security section of your Control Panel. You would then go to the Exceptions tab and add in a Port exception with the following settings:
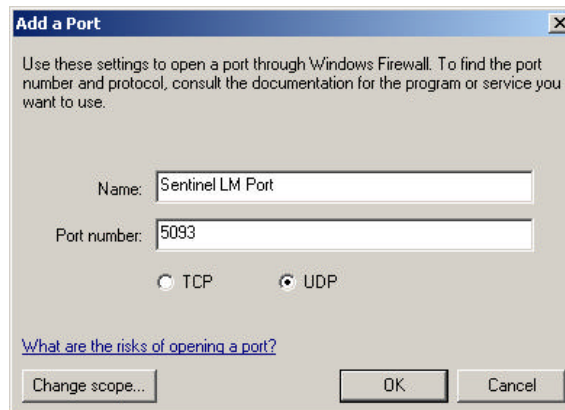
    If you have another Firewall protecting your network, then you may need to adjust its settings or add an exception for the Sentinel LM Service.

    In addition, the instructions in the following section (when the client and LM host are not on the same Subnet) will solve a wide variety of communication issues between client and LM server.

- ***Client computer and LM host do NOT reside on the same Subnet:*** The network versions of RISA software is intended to be run over a Local Area Network where the Data Server, License Server and Client are located on the same Subnet. We do provide a method that will allow the program to function properly over a WAN. However, this is not automatically addressed during the installation process.

    To get functionality over multiple Subnet's all you have to do is set the following registry entry on the HKEY LOCAL MACHINE entry on the client computer.

    Software\ RISA Technologies\ RISAProgram Network\ Version Num

    In the *Version Num* registry key (e.g. 7.0 or 3.0), there will be a registry entry entitled "LSQueryList". If the Data Value for this entry is set to the DNS name or IP address for the Sentinel LM host computer, then the program will directly access that computer for licensing rather than searching the Subnet. If you split your licenses between multiple license servers (for redundancy purposes), then enter in each server separated by a **colon**.

- ***Client computer cannot access LM host and you are unsure if the client and host resides on the same Subnet:*** If you are running Windows XP with Service Pack 2 and your client cannot access the Sentinel LM Service, verify that both your client machine and the computer which serves as the host for Sentinel LM reside on the same Sub-Net.

    To find your computers' IP settings (for 2000 or XP only):

  i. From your client computer, go to Start → Run type in **cmd** and click OK.

  ii. You should see a command line window. Type in **ipconfig /all** in the command prompt and hit <Enter>.

  iii. Make note of the IP Address and subnet mask listed for that client computer.

To determine the IP address of your LM host:

  iv. In the same command line window that you used for the client, type: **ping** [name of License Server] <Enter>

  v. This will show you the IP address of the server you typed in. Normally, you will have to show this to your company's networking guy to determine if the Client and Host are part of the same sub-net.
One common configuration would be a client IP Address of XXX.YYY.ZZZ.10, with a Subnet Mask of 255.255.255.0. In this common case, your LM host would have to have an IP Address in the range XXX.YYY.ZZZ.1 through XXX.YYY.ZZZ.254.

- ***Program responds very slowly:*** Users should have the ability to modify the LS QUERY LIST registry described above (in the section on computers that are not on the same sub-net). If they do not, then the program will have to search the entire sub-net every time it tries to verify the license. This will happen every 2 to 5 minutes and can cause sluggish behavior in the program. Setting this registry entry to the IP address (or DNS name) of the license management server should improve the response time.

  The program is only designed to work over a Local Area Network. Attempting to load it over a WAN or VPN can cause response time issues that affect the performance of the program. Other than setting the LS QUERY LIST registry entry, there is little that can be done on the RISA side to improve the network performance.
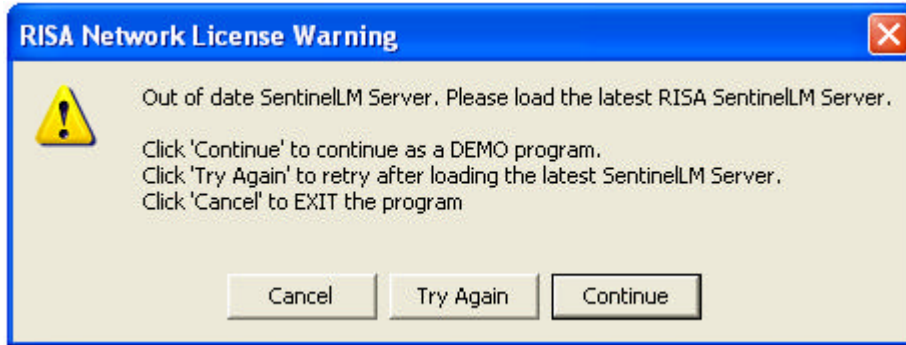
  Finally, errors in the network card of the client machine or the host computer can result in a slow response. Errors with the USB port on the HOST machine can also cause a similar slow response.

3. Network version stops working or your Client computers get an error message at start-up

- ***The Sentinel LM service has been stopped:*** Check to make sure that the Sentinel LM service has not been "stopped". This can be done in the Control Panel – Administrative Tools – Services.

- ***The Sentinel LM service is loaded onto a mapped drive:*** Check to make sure that the Sentinel LM service is loaded onto a local drive of the host machine. This can be done by going to Control Panel – Admin Tools – Services and double clicking on the Sentinel LM service that is listed. The path to executable should point to the local hard drive.

- ***Multiple copies of the Sentinel LM service on one machine:*** Check to make sure that there is only one Sentinel LM service on the host computer. Multiple services will cause a conflict. This can be verified by going to the Control Panel – Administrative Tools – Services.

- *When launching the application from a Client computer, you receive the following error:*

RISA Network License Warning

⚠️ Out of date SentinelLM Server. Please load the latest RISA SentinelLM Server.

Click 'Continue' to continue as a DEMO program.
Click 'Try Again' to retry after loading the latest SentinelLM Server.
Click 'Cancel' to EXIT the program

[Cancel] [Try Again] [Continue]

RISA runs a customized version of the Sentinel License Manager. This customized version was updated in early 2006. This error message means that you are running an older version of the License Manager and need to update the Sentinel LM service as describe in part B3 of these Network Installation Instructions.

- *When launching the application from a Client computer, you receive the following error:*

RISA Network License Warning

⚠️ The Sentinel Key from the SentinelLM Server has been improperly upgraded. Please contact RISA Technologies.

Click 'Yes' to continue as a DEMO program.
Click 'No' to EXIT the program

[Yes] [No]

RISA runs a customized version of the Sentinel License Manager. This customized version was updated in early 2006. In order to maintain compatibility between this version of the license manager and the hardware key it is necessary to also update your network key. This is described in part D of these Network Installation Instructions.

F. Commuting Licenses

One of the most significant advantages of the Sentinel LM license management system is that it provides commuter licensing. This allows you to temporarily use the protected RISA application on a portable computer that is not connected to the network.

Note:
- *When a license gets commuted it will decrease the number of seats available through the license manager.*
- *You MUST have administrative privileges on the client machine in order to commute a license.*
- *The RISA program first attempts to check out a license from the License Server. It will first look for a hardware key, then a commuted license. If neither are found, this it will request a token from the License Management software. If the program is slow to start up, then this could be the cause.*

Locating the WCommute Utilities:

During the client installation of RISAMasonry, a "..\Sentinel LM\Commute\" directory will be created under the main RISA directory. This folder will contain the following files used for the commuting of licenses:

WCommute.exe   – Allows for "commuting" of licenses

WRCommute.exe   – Allows for remote "commuting" of licenses

Lsapiw32.dll   – Required by WCommute and WRCommute

Commuting of Licenses (Local)

The most common use of commuter licensing is when a user needs to travel on business and wants to use a copy of RISA from his laptop / portable computer during the trip. The commuting features will allow a network user to check out an authorization to use the application for a requested time period. If the user returns before the time period has expired, then they can check the authorization back in making that seat available to other users.

- *Step 1:* Make sure the laptop / portable computer is attached to the network and has access to the Sentinel LM host computer. The RISA application must already be installed on the laptop / portable computer.

- *Step 2:* From the laptop, run the WCommute.exe utility. Click the "Search Subnet" button. (*Note: if your LM Host is not on the same Subnet, then you will have to click single the "Single Server" button and enter the License Server name or IP address*).
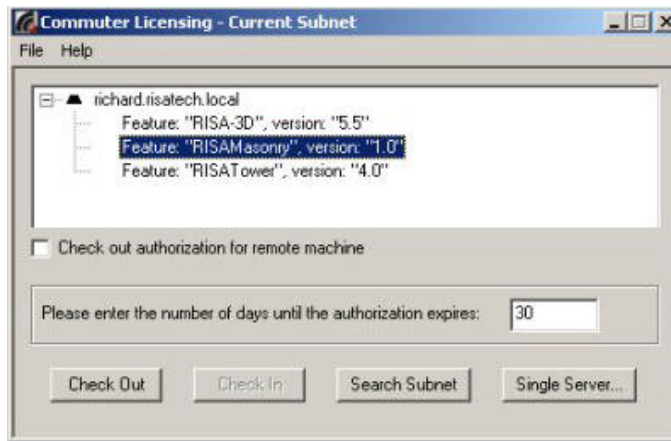
The license server(s) and corresponding protected application(s) will appear in upper portion of the dialog. Select the protected application for which you wish to commute a license. Enter the number of days until the authorization expires and then click the "**Check Out**" button. The portable computer is now licensed to run the protected application until the commuter license expires or is checked back in. Disconnect portable computer from local subnet.

Note: You should NOT check the box that says, "*check out authorization for remote machine*". This is intended only for the REMOTE commuting, not for local commuting.

- *Step 3:* To check the commuter license back in: Connect the portable computer to the local subnet. Follow steps as outlined in Step 2 to search the local subnet for commutable licenses. The upper portion of the dialog should show the license server and application which the portable computer has a commuter license for; This entry will have a red check mark next to it. Select application associated with commuter license and click the "**Check In**" button.

Commuting of Licenses (Remote)

The commuting feature may also be used for users which are NOT connected to network. This is known as **Remote Commuting**. An example would be a remote office that has need for the software, but which CANNOT connect to the license management host. *Note: that once a license has been commuted remotely, it cannot be checked back in until the commuting period has ended.*

- *Step 1:* On the remote computer run the WRCommute utility. Click the "Get Locking Code" tab and the "Save" button. Save the commuter locking code file. Send the locking code file to a local user who has access to the Sentinel LM host computer.
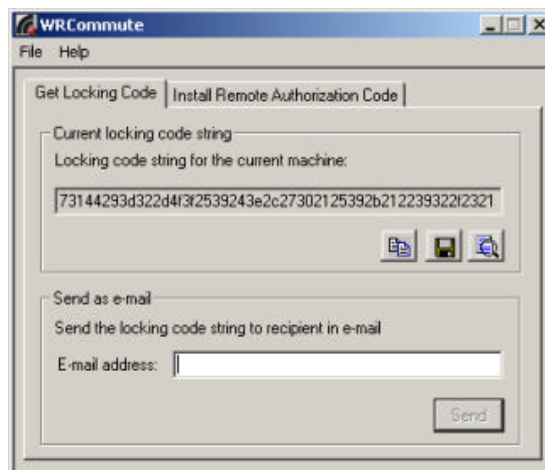
- *Step 2:* Once the local user receives the locking code file from the remote user he will be able to generate a remote authorization code. On a local computer run the WCommute utility. Click the "Search Subnet" button. (*Note: if your LM Host is not on the same Subnet, then you will have to click single the "Single Server" button and enter the License Server name or IP address*).
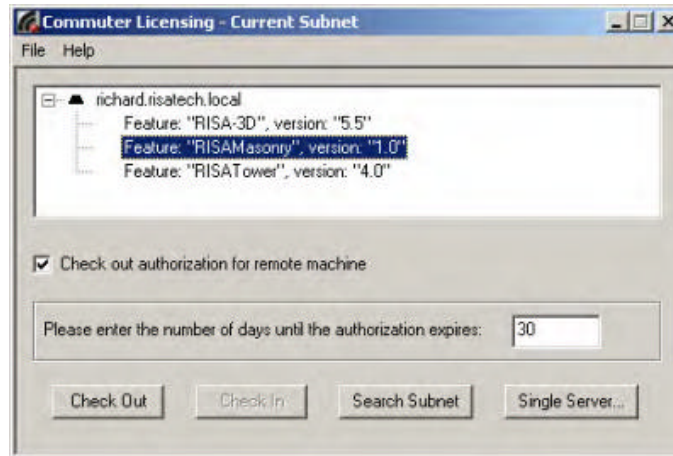
  The license server(s) and corresponding protected application(s) will appear in upper portion of the dialog. Select the protected application for which you wish to commute a license. Enter the number of days until the authorization expires and select the "Check out authorization for remote machine" option. Then click the "Check Out" button. The "Locking Code for Remote Machine" dialog appears. Select "Get locking code string for remote machine from file" and browse to the locking code file obtained from the remote user. Click the "Ok" button. The "Remote Commuter Licensing" dialog appears. Save the remote commuter authorization file. Send the remote authorization file to the remote user.

- *Step 3:* From the remote portable computer again run the WRCommute utility. Select the "Install Remote Authorization Code" tab. Select the "Get remote authorization code from file" option and click the "Browse" button. Open the remote authorization file (obtained from the local Sentinel LM user). Click the "Install" button. A message indicating that the remote authorization code has been installed successfully should appear. The "remote" portable computer is now licensed to run the protected application until the commuter license expires. There is no option to check a remote commuter license back in.
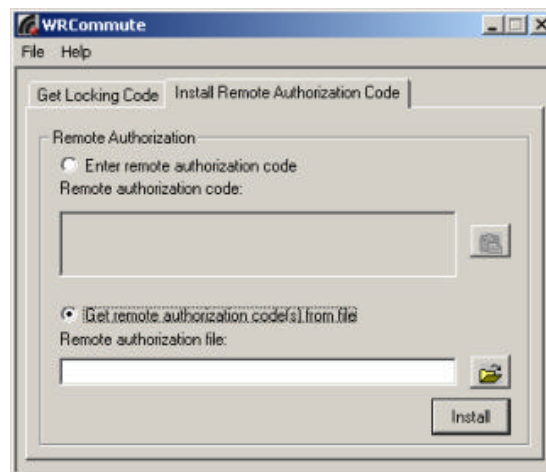
Limiting the Number of Commutable Licenses

To restrict then number of licenses that can be commuted, the network administrator would go to Control Panel – System Properties and select the Advanced tab. You would then click the Environment Variables button to open up and add (or edit) the environment variable called LSERVOPTS.

To tell the license server to limit commutable licenses to 2/3rds of available license tokens, the LSERVEROPTS environment variable would be to COM66

To prohibit ANY licenses from being commuted, the environment variable would be set to:

LSERVOPTS=-com0

G. Usage Reports and License Monitoring

The WLMADMIN.EXE utility will give you an instantaneous snapshot of which users have checked out a license and how many licenses are available.

For a more advanced usage report, you can do the following.

Step 1: Creating the Log File Reports

Sentinel LM gives you the ability to create usage reports to monitor how frequently the software is being use. You can turn on logging by adding the key *CommandLineOpts* with a value data of *-l lserv.log* to the following registry entry:

HKEY_LOCAL_MACHINE \SOFTWARE \Rainbow Technologies \SentinelLM \CurrentVersion

When you restart the Sentinel LM service, it will automatically create an *lserv.log* file in the C:\Windows\system32 folder. Entries in this file will appear only when you will access the License Server either for issue or release of a license.

Step 2: Creating a CSV file that can be read by MS Access

Sentinel LM also provides reporting capability through a Microsoft Access database table, **ReportDB.mdb**, that allows developers and their customers to view license server log file output in bar chart form (for example, to see total use of a feature during a particular time period). To use the reporting feature, the *lsusage.exe* utility must be used. This utility may be present on the License Server in the "..\Sentinel LM Server\" directory. If not, the utility can be obtained by contacting the technical support group at RISA (support@risatech.com).

A command line example of how to use the lsusage.exe utility:

```
lsusage -l "C:\WINDOWS\system32\lserv.log" -c xyz.csv
```

where **lserv.log** file is the license server log file and **xyz.csv** is a output file where decrypted output will be written in a comma separated value format (CSV).

The lsusage utility displays a report of the information in the specified encrypted license server log file. The license server log file contains a record of license transactions made by that license server.

Step 3: Importing the CSV file into Access

This falls outside the realm of technical support for the RISA Program and we can provide on a very limited amount of support on this subject. That being said, we have received some documentation from the Sentinel folks that we have summarized for our clients use as described below:

RISA Network Installation Instructions

1. Within Microsoft Access, open the *ReportDB.mdb* file provided with Sentinel LM. Note that the file is MS Access 97 format – so a newer version of Access will want to convert it to the new format. Go ahead and do that and use the converted MDB file.

2. Select the **Table** tab.

3. Click **New.**

4. Select **Import Table**.

5. Select the CSV file you created with **lsusage** and click **Import**.

6. The **Import Text Wizard** is displayed. Continue to click **Next** until it asks "Where would you like to store your data?"

7. Select In an existing table and select the table *Lservlog*. (If instead of adding to an existing *Lservlog* table you want to create a new one, delete any rows that are already in the Lservlog table before importing new data.)

8. Click **Finish**. Don't forget to keep the table name set to *Lservlog*.

Note: The ReportDB.mdb file mentioned above may be present on the License Server in the "..\Sentinel LM Server\" directory. If not, it can be obtained by contacting the technical support group at RISA (support@risatech.com).

This Lservlog will contain the entire information of ALL the features in the License Server including the non-RISA features. Once the log file use data is imported into the Lservlog table as discussed above, you can now create reports for that data.

Within Microsoft Access, open the ReportDB.mdb file. You will immediately see the Sentinel LM report selection screen.

- Within Access, open the ReportDB.mdb file. You will immediately see the Sentinel LM report selection screen.

- You can now select the date range of the report by specifying Start Date and End Date.

- Now select the type of report you want to create:

    o Total number of tokens granted per feature

    o Maximum number of tokens granted per feature

    o Average number of tokens created per feature

    o Total usage time per feature

    o Total number of tokens denied per feature

    o Percentage of licenses denied per feature