aspentech

Software License Manager (SLM)

Installation and Reference Guide

Version Number: V11
February 2019

Contents

1 Introduction

Purpose

This guide describes the Aspen Software License Manager (SLM) installation and configuration. It also describes how to administer and manage the SLM.

Read this guide if you are involved with the planning, implementation, installation, or maintenance of the license management system for AspenTech products for your company.

Overview

This chapter includes the following information:
- Who Should Read This Guide
- Technical Support

Related Documentation

In addition to this guide, refer to the other documentation for SLM:
- *Auto Upload Tool Installation Guide*
- *Aspen Licensing Dashboard Getting Started Guide*
- *Aspen License Deployment Assistant Getting Started Guide*
- *SLM Configuration Wizard Help*
- *SLM License Profiler Help*

Technical Support

AspenTech customers with a valid license and software maintenance agreement can register to access the online AspenTech Support Center at:

https://support.aspentech.com.

This Web support site allows you to:
- Access current product documentation
- Search for tech tips, solutions, and frequently asked questions (FAQs)
- Search for and download service packs and product updates
- Submit and track technical issues

- Send suggestions
- Report product defects
- Review lists of known deficiencies and defects

Registered users can also subscribe to our Technical Support e-Bulletins. These are used to alert users to important technical support information such as:

- Technical advisories
- Product updates and releases

Customer support is also available by phone, fax, and email. The most up-to-date contact information is available at the AspenTech Support Center at https://support.aspentech.com.

2 Overview

Purpose

This chapter provides abbreviated instructions on how to install and configure the SLM. It is intended for users that have a general understanding of license managers and who do not intend to use the advanced features of the SLM as described in this installation guide. For more detailed information about installing and configuring the SLM, see chapters 3 through 6.

Overview

All aspenONE V11 products use the SLM licensing system. The SLM allows two types of licensing: standalone and network.

- Standalone licensing obtains licenses from the same computer on which the AspenTech products are installed.
- Network licensing is similar to standalone licensing, but the application licenses are obtained across a network connection from a network-license-server computer.

In instances where the AspenTech products are installed with a standalone license, only the SLM Client component is required. When using network licensing, the SLM Network license server should be installed and configured on a network server computer prior to installing any AspenTech products on the client computers. To install any AspenTech V11 products, you will require either a standalone license file or access to a network license server prior to proceeding with the installation.

Every SLM license file is locked to some locking criteria. This can be as specific as a piece of hardware (such as a dongle hardware-key or a Hard-disk id), or it can be as liberal as the TCP/IP domain. To obtain a license file, complete the steps described in "Obtaining License Files" on page **17**.

Note: You must have a standalone SLM license file or access to an SLM network license server prior to using aspenONE V11 products.

aspenONE Overview

aspenONE® is AspenTech's comprehensive set of software solutions and services. aspenONE products enable process industry companies to optimize their engineering, manufacturing and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins,

reduce costs, become more energy efficient, and achieve operational excellence goals.

aspenONE solutions include the industry's leading:
- Simulation and design products in the aspenONE Engineering suite
- Plant operations products in the aspenONE Manufacturing suite
- Supply chain management products in the aspenONE Supply Chain suite
- Predictive and prescriptive analytic products in the aspenONE Asset Performance Management suite

The token-based aspenONE Licensing Model gives customers the flexibility to access and use any aspenONE product at precisely the time it is needed. This is especially critical in the dynamic market conditions of the process industries – whether during down economies or in high-growth periods. This enables customers to lower their risk while maximizing the return on their software investment.

aspenONE Media

Unless you have specifically requested a USB drive, you will receive instructions on how to download the aspenONE V11 media.

You will have access to one or more of the following:

o aspenONE Token Media – Contains the media that supports the aspenONE Licensing Model token-based system. This all-inclusive token-based licensing model was introduced in July 2009. Under this licensing model, customers are entitled to install and run all of AspenTech's products as long as they have purchased sufficient tokens. To install software purchased under this commercial agreement, use this media. Software installed from the aspenONE Token media requires run-time token-based license keys.

o aspenONE Standard Media – Contains the media that supports perpetual and pre-aspenONE Licensing Model token-based systems. If you have perpetual license agreements or token-based license agreements by product (pre-July 2009), you should use the media labeled Standard. Software installed from the aspenONE Standard media requires older license keys that have been in use since the aspenONE 2004 release.

o Informatica – If you have an MSC perpetual license purchased prior to 2011 and are entitled to Informatica upgrades, you will receive both the Standard media and a standalone Informatica media containing a new version of Informatica PowerCenter.

Organization

The aspenONE media delivers AspenTech's Process Modeling, Exchanger Design and Rating, Economic Evaluation, Energy and Flare Analysis, Process Development and Operations Support, Plant Operations, Process Control, Supply Chain Management, and Asset Performance products and documentation.

The media is organized in the following folders:

- *Aspen Engineering* – includes all Aspen Engineering products, Aspen PIMS and Aspen Administration components (Aspen SLM, Aspen SLM tools, ALC Auto Upload Tool).
- *Aspen Manufacturing and Supply Chain* – includes all Aspen Manufacturing products (Information Management, Batch, Production Management, and Advanced Process Control), Aspen Petroleum Supply Chain products, aspenONE Supply Chain Management products, and aspenONE Infrastructure products as well as Aspen Administration components (Aspen SLM, Aspen Security, Aspen SLM tools, aspenONE Diagnostics, ALC Auto Upload Tool).
- *aspenONE Asset Performance Management* – includes all APM products (Aspen Asset Analytics, Aspen Fidelis Reliability, Aspen MTell, Aspen ProMV).
- *aspenONE Software License Manager* includes all Aspen Administration components (Aspen SLM, Aspen SLM tools, ALC Auto Upload Tool).

Installation Guides and Release Notes are included in the Documentation sub-folders under each family of products.

Notes:

- When you deploy aspenONE V11 software on client machines, the SLM server should be from the V11 release. When migrating to a new version of aspenONE, the SLM Server should always be upgraded first, followed by the SLM clients. This is done to avoid any potential incompatibility issues. During this transition period, it is possible to have clients at a lower version than the SLM Server.
- Some products previously available on CD-ROM or DVD are not included on the aspenONE medias. If you do not find a product, please contact AspenTech Support at https://support.aspentech.com.

aspenONE Licensing Model

The aspenONE Licensing Model is a flexible token-based approach to software licensing. This unique and innovative commercial model makes it easier for

customers to use software when and where they need it. Customers have access to all current and future AspenTech products with just one contract.

Upgrading to the aspenONE Licensing Model for Manufacturing and Supply Chain V8.x and above

If you have recently signed a new aspenONE Licensing Model agreement or if you have superseded an old license agreement with an aspenONE Licensing Model token-based license agreement for aspenONE Manufacturing and Supply Chain, you will receive a new token-based license file for V11. During installation of any product in Aspen Manufacturing and Supply Chain, you will get a message indicating that the newly installed software will use the token-based license key. Accepting the warning message enables you to install the software.

Note: If you do not have the updated token-based license file, please contact AspenTech Customer Support.

Accessing aspenONE Documentation

Documentation is available directly from the applications. This eliminates the need to search for the documents that you need and ensures that you can always find the most current version of the document that you are looking for.

Documentation can be found in the following ways:

- Installation Guides and Release Notes can be found by selecting **Browse contents of USB** on the suite selection page or by clicking the corresponding link on the Welcome page of the aspenONE Installer.
- Context-sensitive help can be accessed by:
    - o Clicking the **Help** button on an application dialog box
    - o Pressing F1 while in the application
    - o Clicking the application's **Help** menu and selecting **Help**
- Additional documents in PDF format can be accessed by:
    - o Clicking **Online Documentation** on the product's **Start** page or **Start** tab or selecting Documentation from the product's Help menu. This will open the Online Documentation Center from which you can view and/or download the product-specific documents.
    - o Logging onto the AspenTech Customer Support site, clicking , which makes the left-hand navigation menu appear, clicking **Find the Answer** from that menu, and selecting **Product Documentation**. Your home page displays the **Browse for Documentation** section; you can select a Family, Product, and Version. Click **Go** and a list of the available documentation is displayed.
    - o Downloading all of the available documentation (other than Help files) from the AspenTech Customer Support website via the zip file of the aspenONE Documentation.

- For Aspen Plus, HYSYS, EDR, DMC3 Builder, Fidelis only, you can access additional documents by:
  - o Clicking on the link to aspenONE Exchange on the File menu and then entering a search string in the search box.
  - o Clicking on the documentation search shortcut on the Resources ribbon and then entering a search string in the search box or browse through the list of published training documents.

Before you begin installation, you will want to review the What's new document and Release notes and print copies of the Installation Guides for products that will be installed. Those documents are included under each suite's folder on the USB drive in your package.

System Requirements

For the most up-to-date hardware and software requirements that must be met in order to install AspenTech products, refer to the following website:

https://www.aspentech.com/platform-support/

Granular Downloads

V11 includes the ability to download some individual products/product families that can be used independently of a full suite. These sub-components are referred to as **granular downloads**. The granular downloads are used to provide smaller downloads in situations where customers only need a specific product/product family. If more than one granular download is needed, it is recommended that the entire suite is downloaded because it may take less time overall as opposed to downloading two or more sub-components.

V11 Engineering (ENG): In the case of the ENG media, users can download the entire suite or one of the items listed under the ENG group:

- o Aspen Economic Evaluation
- o Aspen Exchanger Design and Rating with Aspen Properties, Aspen Simulation Workbook and Aspen Version Comparison Assistant
- o Aspen Simulation Workbook
- o Aspen Cim-IO & Process Data*

*The CIM-IO & Process Data software is from the Manufacturing & Supply Chain suite and is useful for customers deploying a 3rd party historian and is included for convenience. **Note:** The Aspen Cim-IO & Process Data software **is not** a part of the overall Engineering suite download, and only available as a separate download.

V11 <u>Manufacturing & Supply Chain (MSC):</u> In the case of the MSC media, users can download the entire suite or one of the items listed under the MSC group:

- o Aspen Supply Chain Management
- o Aspen Planning, Scheduling and Blending, Supply & Distribution
- o Aspen Manufacturing Execution Systems & Advanced Process Control
- o Aspen Cim-IO & Process Data

V11 <u>Asset Performance Management (APM):</u> In the case of the APM media, there is no downloadable suite. Users can download the products listed below the APM group:

- o Aspen Asset Analytics
- o Aspen Fidelis Reliability
- o Aspen ProMV
- o Aspen Mtell
- o Aspen Cloud Connect
- o Aspen Edge Connect

<u>Software License Manager (SLM)</u>: In the case of the SLM media, the only granular download is ALDA:

- o aspenONE License Deployment Assistant (ALDA)

Prerequisites

Before you install any aspenONE V11 products, ensure that you are running a supported operating system and have the aspenONE V11 installation media available.

When migrating to a new version of aspenONE, the SLM Server should always be upgraded first, followed by the SLM clients. This is done to avoid any potential incompatibility issues. During this transition period, it is possible to have clients at a lower version than the SLM Server.

Deploying a SLM Client version that is higher than the SLM Server is not supported.

The following table illustrates SLM compatibility:

aspenONE Version(s) (SLM version)	V8.0-V8.3 (SLM Server 8.4)	V8.4-V8.8 (SLM Server 8.5)	V9-V10 (SLM Server 8.6)	V11 (SLM Server 9.2)
V8.0-V8.6 (SLM Client 8.4)	Supported	Supported	Supported	Supported
V8.7-V8.8 (SLM Client 8.5)	Not Supported	Supported	Supported	Supported
V9.0-V10	Will Not Work	Not Supported	Best practice	Best Practice

(SLM Client 8.6)				
V11 (SLM Client 8.6)	Will Not Work	Not Supported	Supported	Best Practice

AspenTech Product Installation Process

1 Obtain license file(s) from AspenTech.

2 If you are using a network license file, install and configure SLM Network License Server.

3 Install the AspenTech products from the aspenONE media. You will be prompted to specify either a standalone license file or a network license server during the installation process.

4 Test the products to ensure license system functionality.

5 Optionally configure the SLM advanced features.

3 SLM Overview

Purpose

This section describes the general concepts of SLM.

Overview

AspenTech controls the use of AspenTech products through the SLM. SLM is a software-based security system that controls and tracks the usage of AspenTech software, components, and features as well as certain third-party software.

Benefits of SLM

All aspenONE products use the SLM licensing system. SLM provides equivalent functionality to previous AspenTech license managers, while adding many of the features requested by clients. Some of the major capabilities and benefits offered by SLM are listed below:

- Greater return on software investment through improved productivity
  - o Maximizes corporate-wide access to software
  - o Leverages investment over multiple time zones
- Improved performance through access to a larger technology toolkit
  - o Ability to access and evaluate new software technologies outside of core departments
  - o Supports adoption of the model-centric, lifecycle approach
  - o Support of a standardized toolkit for better quality control
- Reduced administration and total cost of ownership (TCO)
  - o Reduce or eliminate standalone user key tracking and administration
  - o Maintain software on central servers, significantly reducing IT time / costs
  - o Improved monitoring of software usage
  - o Track current and historical individual, departmental and organizational use

- o Budget / allocate, manage deployment and assess training needs
- o Enhanced performance and reliability
- o Spread licenses across license servers to ensure access to critical software
- Optimized for client Networks
  - o SLM technology requires less network bandwidth and computing power
  - o The network speed for SLM has been rigorously tested and optimized
  - o Tools are provided to enable clients to test and optimize their networks
- License Splitting – Splits license pool over multiple Network License Servers.
- Splits licenses over two or more Network License Servers
  - o Transparent to standard users
  - o Improves license access speed by reducing network latency
  - o Users access servers based on network proximity
  - o Ensures access to critical software if a server goes down; any Products in use will shut down gracefully
  - o When you start the product, it will automatically switch to an available Network License Server (if licenses are still available)
- Commuting Option – Enables off-network product usage, for example, remote plant site, home, client site.

SLM Primer

License Terminology

The following table describes the license terminology used within this manual:

Term	Description
License	Permission granted to the AspenTech product/program/application/component to use a specific feature.
License string	An encrypted alphanumeric text string used to define a single licensed feature.
License File	File containing license strings for the specific features licensed to the user.
SLM Dongle	Physical hardware device used to secure licenses.
Standalone License	License granted is local to the user computer.
Network License	License granted/obtained is from a network license server.
Network License Server	Program or service running on a computer that is attached to the Network (LAN or WAN). This grants licenses to the AspenTech product that is running on network user computers.

Term	Description
SLM	Software License Manager, the AspenTech software security system.
Commuted License	Commuting or borrowing is the process of temporarily moving a license from a license server to a standalone computer, such as a laptop.

SLM Components

This section describes the components that comprise SLM. These components are typically predetermined during the order administration process and are included in your shipment.

The basic SLM requirements include the following:

- SLM license file
- SLM locking criterion
- SLM client (included with all AspenTech product installations)
- SLM license server

Additionally, some users will require:

- SLM dongles
- Sentinel System Drivers

SLM System Requirements

Supported Operating Systems

For supported operating systems, refer to the "**Prerequisites**" section on page 8.

If you are using an SLM dongle, Sentinel drivers are required.

License Locking Criteria

SLM uses license files that must be locked to some locking criterion. The locking criterion can be as specific as a piece of hardware (such as a dongle or a disk id), or the TCP/IP domain. The locking criteria can be divided into two general options: dongle-free and dongle-locked.

Dongle-free. The license file contains a locking code that is locked to some component of the target computer (for example, disk id) or a company's network (for example, TCP/IP domain). The license will only work if the locking criterion and license file are both available to the user PC (standalone) or license server (network).

Dongle-locked. The license file contains a locking code that is locked to a dongle and will only work if the dongle is attached to the computer on which the license manager is run. This may be a network license server or a standalone product installation. Dongles are available to all customers upon request.

If a dongle is requested, it will be delivered to your system administrator with the software package. If you selected the dongle-less licensing option during order administration, the license file you receive will have a locking code associated with some locking criterion that was provided during the order administration process. If you are unsure of whether you need a dongle to use the AspenTech software, contact your system administrator.

AspenTech uses the following delivery mechanisms:

	Site-based license	User-based license
Dongle-free delivery	Delivered as a Network license locked to: • Licenses are locked to the network card of the license server, or another mechanism as appropriate for physical machines. • Licenses are locked to the machine name and IP addresses for virtual machines.	Delivered as standalone or network as per the customer's software license agreement: • Network licenses are locked to the network card of the license server, or another mechanism as appropriate. • Standalone licenses are locked to the Disk-id or another mechanism as appropriate.
Dongle-locked	Delivered as a network license locked to a dongle, which must be attached to the license server.	Delivered as standalone or network as per the customer's software license agreement and locked to a dongle.

License Files

SLM uses license files to control access to AspenTech products. License files are obtained during the order administration process and are delivered with your shipment. For more information about obtaining licenses, see "**Obtaining License Files**" in this chapter. The license files must be installed on each client computer or on the server where the SLM License Server component is installed. Each license file contains the following components:

• A lock code

• A start date

• An end date

• Product license strings

Note: In order for the license to be valid, the System clock time must fall between the start and end dates of the license file.

For hardware locked standalone license files (those license files locked to a disk ID or network card), there is a separate standalone license file required for each user computer or network license file required for each server. Make sure that the license file copied to the target computer is the license file specifically intended for that computer.

For dongle locked license files, there is a separate license file required for each dongle. If you are using a dongle, connect the dongle to the appropriate media or parallel port. Only one network license file may be installed on a network server at one time, but any number of standalone, dongle-locked

license files may be installed on a single user PC. SLM will automatically locate the appropriate one, based on the dongle it detects.

Caution: Do not plug the dongle into the serial port, because it will damage your computer.

For a network locked license files (those license files locked to a network domain), there is a single, shared, license file for each network domain that must be copied to each computer on the domain. Make sure that the license file copied to the domain computers is the correct license file for that domain.

License Modes

There are two modes for AspenTech licensing: site-based and user-based. The type of mode used for your location is determined during the sales and contracting process. To determine the type of licensing mode specific to your organization, contact your System Administrator. Site-based and user-based licensing modes may be installed as a standalone installation (directly on each user's computer) or as a network installation using a network license server.

Token-based

The aspenONE Licensing model is a flexible token-based approach to software licensing. This unique and innovative commercial model makes it easier for customers to use the software whenever and wherever they need it. Customers have access to all current and future AspenTech products with just one contract.

Site-based

Site-based software can be used by any individual within a licensed "site" with no restrictions on the number of users or time in use. A site may contractually be defined as an actual customer site, a business department, or some other organizational component. It may even be defined as worldwide. SLM does not count users with site-based licenses. Site-based licenses may also be referred to as unlimited.

User-based

Any individual can use user-based software licensing as long as the number of purchased license units is not exceeded. SLM counts the software in use and limits the number of units that can be accessed at one time to the number of units purchased. Most often, software is sold in tokens, but it may also be sold in "seats" or simultaneous users, bundles, or other units of measure.

Installation Modes

SLM may be installed in a Standalone mode or Network mode.

Standalone Mode

In the **Standalone** license mode, the AspenTech products and license file are installed on a single computer that includes the locking criterion. This configuration is most often used when the AspenTech product uses a site-based, dongle-free license, or when the user-based AspenTech product is only used by one individual or is only installed on a particular computer.

The installation routines of all AspenTech products include the SLM client. If you are using a dongle, you also must have a USB port available on your computer.

If you are using your AspenTech product on an application server, the SLM client must be installed on the local, end-user computer.

Notes:

- SLM checks for a standalone license first. If the license is not found or the local security SLM dongle is not installed, SLM searches for an available network license.
- You can install the Sentinel dongle drivers for SLM by selecting the **Sentinel System Drivers** option from any aspenONE product media.
- SLM may require full write access to the registry on the client computer while certain AspenTech products are running (for example, when commuting).
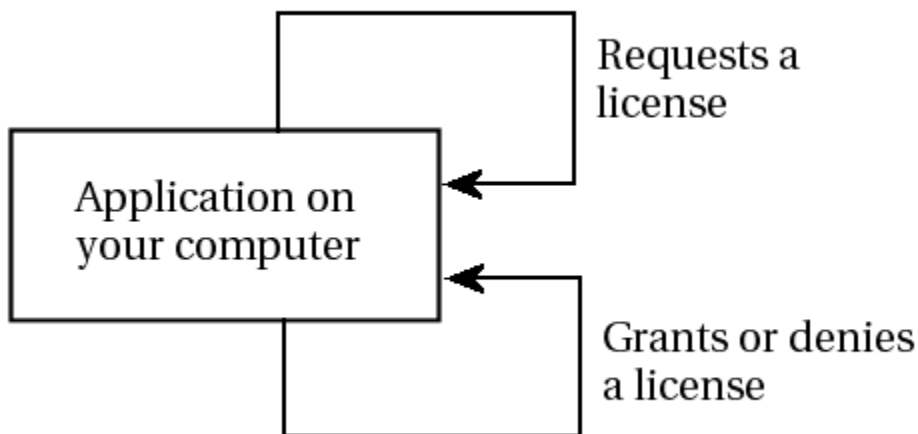
Network Mode

The Network license mode is configured so the AspenTech product is executed on your computer, but the licenses are installed on a network license server, so they can be shared with other users.

The license server consists of:

- A file of network license strings
- The license server application

The license server issues the licenses to all users on the network.
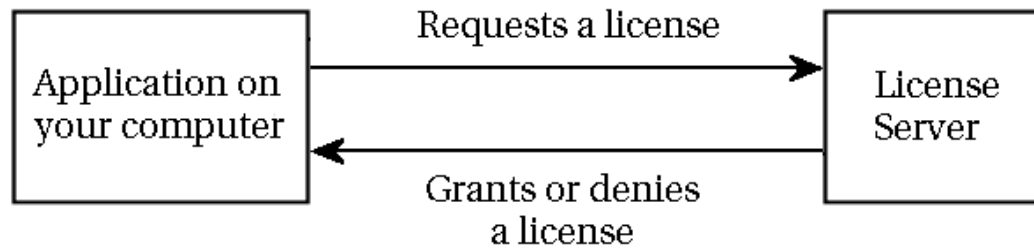
Each License Server must be running a supported Server Side Operating System. If your license uses a dongle, you must have an available parallel or USB port. It is recommended that the server have a static IP Address. AspenTech recommends that each License Server be a dedicated server (AspenTech products only).

Note: The Sentinel dongle drivers for SLM may be installed by selecting the **Sentinel System Drivers** option from any aspenONE product media.

Obtaining License Files

There are two times when new license files may be required: when a contract changes or is created, or when there are changes to the software. In any case, the licenses you need should be delivered with your software package.

Software Updates

If new license files are required, you will be asked to provide locking information during the shipping confirmation or request process. For instructions about obtaining license files, go to the AspenTech Customer Support website, and then click **Upgrades, Media & Licenses**.

Contract Changes, Including New Contracts

If you are receiving new software or additional licenses for existing software, the configuration of the licenses will be specified in the contract. You will be contacted by AspenTech's Distribution department to provide the locking information they require to ship your licenses. In some cases, you may receive your software with a dongle and dongle-locked license. In other cases, you may receive your software with a dongle-less license and no dongle is necessary.

To obtain license files from AspenTech

License files are obtained from the AspenTech Customer Support website. For instructions about obtaining license files, go to the AspenTech Customer Support website, and then click **Request License Keys**.

SLM License String Prefixes Defined

New license files will have the prefix "SLM_" on each license string. However, other prefixes may also appear.

This prefix	Applies to this type of license	Description	Example
AEA (Aspen Engineering Application)	Standard	Each license string defines the number of seats you are licensed for (in other words, copies available for use). Most licenses will have a standard AEA_ license prefix.	AEA_AspenPlus
AET (Aspen Engineering Token)	Token	This license string tracks the tokens in use and defines any hard limit placed on the number of tokens available.	AET_HYSYS_Process
SLM (Software License Manager)	Unified	You can use **SLM** licenses to switch between **Bundle**, **Standard**, and **Token** modes, or to use **AEA**, **AET**, and **SLM** licenses simultaneously. This prefix is the only option available in many cases and is recommended in all cases.	SLM_Aspen_Retail

Note: If you want to upgrade your existing license to a Unified license, contact Technical Support: **esupport@aspentech.com.**

SLM Dongles (Hardware-Keys)

SLM requires that license files be locked to some locking criterion. As stated previously, this can be a disk ID or dongle, or the TCP/IP domain. Some clients will receive one or more SLM dongles with their licensing package.

A dongle is a piece of hardware that plugs into a USB, parallel, or serial port on a computer. The dongle and license file contain a set of matching codes. The code on the dongle must match the code in the license file in order for you to access the applications licensed to you. If the codes do not match, the applications are unable to run. This prevents unauthorized users from running the software applications.

SLM USB dongles require the Sentinel System Driver. Dongle Driver needs to be installed before plugging in the dongle.

Caution: Do not plug a USB dongle into the serial port because it will damage your computer.

In most cases, dongles are not required for aspenONE V11 products. If you have not used dongles for previous versions of AspenTech products, you will not receive dongles with your aspenONE V11 license. If you previously used dongles with your AspenTech products, you will continue to receive dongles with your product shipment.

Notes:

- If you did not receive a dongle with your shipment, you can ignore the sections of this manual describing dongles.
- Serial port dongles are legacy hardware and are no longer available and supported. For more information about serial port dongles, see the section "Hyprotech Green Dongles".
- Parallel port dongles **cannot** be stacked in parallel or in series.
- Security dongles previously used by AspenTech and Hyprotech prior to SLM, except for the Hyprotech green dongles, are incompatible with SLM. AspenTech requests that you return your old dongles when you no longer need them.

Sentinel System Driver

If you are using dongles as your locking device, the Sentinel System Driver is required to communicate with the dongle. The Sentinel System Driver can be installed from any aspenONE product media.

To check that the Sentinel System Driver is installed

Verify that the Sentinel System driver was installed.

- In Windows Explorer, browse to the Sentinel system driver and verify that the **SetupSysDriver.exe** file exists. The **SetupSysDriver.exe** file is installed to:

```
<root>\Program Files {(x86)}\Common Files\SafeNet
Sentinel\Sentinel System Driver\
```

Notes:

- It is not necessary to run the **SetupSysDriver.exe**.
- The SLM V11 client is based on Sentinel RMS 8.6.1. Sentinel RMS's version compatibility works as follows: RMS license client library version <= RMS license server version. As a best practice, Sentinel recommends using compatible versions of the RMS client library and RMS license servers during deployment. According to SafeNet, Sentinel RMS cannot guarantee the RMS system's behaviors when unsupported or incompatible RMS license library and license servers are deployed.

Network Requirements

Network Connectivity Requirements

SLM is designed for use on private networks (LAN or WAN), but not on public networks (Internet). In cases where the Internet is the only connectivity available, you can establish a VPN (Virtual Private Network) between two endpoints on the network. This both enables the SLM to function properly and provides you with network security.

The connection must be reliable. Dial-up connections (remote access services) are not recommended due to poor reliability. This is especially true if you attempt to commute licenses over these connections, as reliability is crucial for commuting licenses.

By default, the Sentinel RMS License Manager service runs at port number **5093**.

> **Note:** The packet size required for SLM is approximately 700 bytes. If you are connecting to the license server through VPN, VPN might add additional bandwidth overhead.

Support for Previous Licensing Systems

If you are running an AspenTech product version that uses the Aspen License Manager (ALM), the ALM and SLM license servers may be installed and running at the same time. However, you are responsible for ensuring that you do not exceed the terms of your license agreement when the two servers are running simultaneously. If you want to reduce the number of users on either of your network servers to help ensure that you remain within your contractual limits, contact your sales representative or **Technical Support**.

> **Caution:** SLM network license server and Hyprotech security systems are **NOT** compatible. Do not install the SLM security system on the same computer as a Hyprotech network security system.

Features and Limitations of SLM

The following lists some of the basic features and limitations of the SLM:

- Once the SLM dongle and licenses are installed on the license server, any user who has installed the Aspen products can run the AspenTech product as long as there is a network connection to that license server. If the client computer resides on a different sub-network, or a particular server is desired (if there are multiple servers), the client can direct its license requests to a particular server through the use of:
  - o SLM Configuration Wizard. AspenTech recommends using this method to set up the server license request.
  - o The **LSHost** environment variable. The environment variable (or its text file equivalent) lists the license server names and the order in which they are called when a license request is made.
- If all license servers are unavailable or cannot grant a license request on start-up of the AspenTech product, access to the AspenTech product is denied.
- Once the AspenTech product has started, the client-side software intermittently checks to ensure that the SLM server is available. If the server is not available (in other words, loss of access to the server while the product is open), you will experience different behaviors depending on the product in use. In most cases, you are prompted to save your work, the license is checked back in, and the AspenTech product is shut down. You can then attempt to start the product again. The amount of time allowed for shut-down of the software varies from a few seconds for design tools to several days for critical production software. During start-

up, license servers are checked for availability again, according to the configuration of the client computer. If one of the servers is able to grant the requested license, you are allowed to continue.

- Licenses that are in use cannot be terminated remotely (in other words, the administrator **cannot** bump or terminate users).

   Note: The commuter option can only be used with software from one server at a time. Software from two or more servers cannot be commuted simultaneously.

- SLM can be loaded on multiple license servers. In this case, the licenses or tokens must be divided between servers.

License Manager Program and Files

SLM contains many options that can be set to control the behavior of the Licensing System. You can set or configure these options:

- By using the aspenONE SLM License Manager
- By using the SLM Configuration Wizard
- By setting the environment variables of the operating system
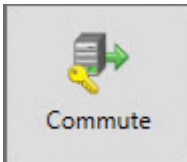
AspenTech recommends using the aspenONE SLM License Manager to set the options.
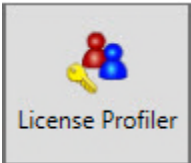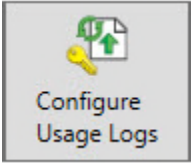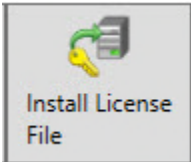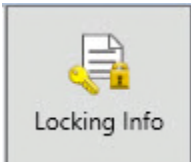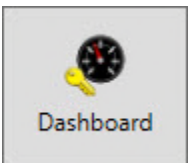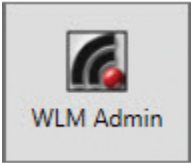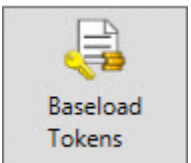
aspenONE SLM License Manager

The new aspenONE SLM License Manager allows you to access various SLM features from a central location.

To open the aspenONE SLM License Manager, from the **Start** menu, select **aspenONE SLM License Manager**.

On the aspenONE SLM License Manager, you can click the following buttons:

Button	Description
Configure	Click **Configure** to access the SLM Configuration Wizard. You can click **Help** on the upper right corner of the SLM Configuration Wizard dialog box to access help for this tool. The SLM Configuration Wizard is a utility that guides you through a series of steps that configures the SLM to generate license keys.
Commute	Click **Commute** to access SLM Commute. You can use SLM Commute to manage commuted licenses. Commuted licenses are borrowed licenses that allow a client computer to run the licensed product while disconnected from the network without the use of a SLM dongle.

Button	Description
License Profiler	Click **License Profiler** to access the SLM License Profiler. You can click **Help** | **Contents** on the **SLM License Profiler** dialog box to access help for this tool. The SLM License Profiler lets you obtain specific information about the licenses available on an SLM server or license file. Typically, you will use the SLM License Profiler to verify licenses on a license server or license file and to diagnose license related problems.
Configure Usage Logs	Click **Configure Usage Logs** to access the Auto Upload Tool. The Auto Upload Tool lets you systematically transmit usage log files to AspenTech, either by secure http, secure ftp transmission, or as an attachment to an email sent to the ALC mailbox. You can select the secure method that best meets your needs. For more information, refer to the *Auto Upload Tool Installation Guide*.
Install License File	Click **Install License File** to install a license file. The **aspenONE License File Installer** lets you install either a standalone or network license file on your machine.
Locking Info	Click **Locking Info** to access **SLM Locking & Configuration Information**. The **Locking Information** and **Configuration Information** sections display SLM and system information, including the configuration settings set using the SLM Configuration Wizard. This information helps you understand how SLM is configured on your computer and is required by AspenTech to generate your license files.
Dashboard	Click **Dashboard** to access the Aspen Licensing Dashboard. You can use Aspen Licensing Dashboard to increase productivity by monitoring denial of licenses, license expiration dates, and connection to your license server. For more information, refer to the *Aspen Licensing Dashboard Getting Started Guide*.
WLM Admin	Click **WLM Admin** to access WLM Admin. WLMAdmin is the primary network license administration tool. It is designed to provide access to most of the SLM licensing features and full information on licensing activities at the following levels: server, feature/license, and user.
Baseload Tokens	Click **Baseload Tokens** to access the Base Load Service Report. The Base Load Token Service provides a way to track and report on product token consumption.

The aspenONE SLM License Manager opens automatically connected to the current configured license server.

Depending on your setup, a summary may appear, displaying the following information:

- Server system name
- Total tokens in license file
- Number of tokens currently checked out

- Number of unique users currently using licenses

Depending on your setup, you may view the following tabs:
- **License**: Lists the License Name, Product Name, Total Licenses, Licenses in Use, Tokens in Use, Licenses Commuted, Expiration Date, and Bucket.
- **User**: Lists the User Name, Computer Name, License, Product Name, Licenses in Use, Tokens, Time Checked Out, and Commuted (Yes/No).

Notes:
- You can sort the information contained in this grid.
- Click **Copy to Clipboard** to copy the information in this grid.

SLM Configuration Wizard

The SLM Configuration Wizard is a user-friendly client-side tool used to set the relevant keys in the registry to the user-specified values.

For information about the SLM Configuration Wizard, see Chapter **6 Configuring SLM**.

SLM Commute

Use SLM Commute to manage commuted licenses. Commuting is allowed only if permission to commute has been activated in the feature's license string (contact your AspenTech Sales representative for more details).

For detailed information about SLM Commute, see "Commuting Licenses".

Environment Variables

You can use environment variables of the operating system to configure the options available in SLM. AspenTech recommends using the SLM Configuration Wizard to set SLM operation variables. For more information, see "Configuring SLM Using Environment Variables".

User Options

SLM also contains other options that are set by using specific configuration files:
- User Alerts
- Group Reservations

User Alerts

Alerts let you know about certain license events. For detailed information about user alerts, see "User Alerts".

Setting the Group Reservations

Group reservations let you associate user groups with each feature. Each of these user groups is then reserved in a pool containing a certain number of licenses for that feature. Any licenses not specifically reserved fall in the general pool.

For detailed information about group reservations, see "Group Reservations".

Base Load Token Service

For some customers, some products are priced using methods such as per server or per site in place of or in addition to dynamic user charges. For these situations, the Base Load Token Service provides a way to track and report on the product token consumption.

The Base Load Token Service consumes tokens when you use any of the following products:

- Aspen PIMS or Aspen Unified PIMS
- Aspen Supply Chain Planner
- Aspen Petroleum Supply Chain Planner (DPO)
- Aspen Fleet Optimizer (Retail) or AFO Connect

To install the Base Load Token Service:

During the SLM install progress described in the "Installing the Network License Server" section on page 32, Aspen Base Load Token Service is automatically installed when you select **SLM License Server**.

The following prerequisites apply:

- The license key(s) must be configured beforehand to consume the correct number of tokens. For any questions regarding license files, contact AspenTech Support.
- The SLM Server must be installed and running with the correct license file.
- The Aspen Base Load Token Service will be installed on the same computer as the SLM Server.

To view the Base Load Token Usage:

On the license server computer, from the **Start** menu, select **aspenONE SLM License Manager**, and then click **Base Load Tokens**. The **Base Load Service Report** dialog box appears.

The columns in the dialog box are described below:

- **Issued Time** – Time license was checked out from the SLM server
- **Validation Time** – Last time license was validated against the SLM server for configuration changes
- **License Name** – License key that is checked out from the SLM server
- **License Count** – Number of licenses to be checked out for the given license
- **Tokens Consumed** – Number of tokens consumed on the SLM server
- **Expected Tokens** – The expected number of tokens to be consumed if there are no errors, such as sufficient tokens available
- **Status** – Status of checking out the given license

4 Installing Standalone License Files

Purpose

This chapter describes how to install SLM in Standalone mode and Network mode.

Overview

Specifically, this chapter covers the following topics:

- Prerequisites
- Installing the License files
- Installing dongles

License Package

New AspenTech Products

If you have newly leased or purchased your AspenTech product, you may receive an SLM dongle in addition to the AspenTech product media and your license file.

Upgraded AspenTech Products

If you are upgrading your AspenTech product, you will find included in your package, the AspenTech media containing an upgraded license file locked to either your existing SLM dongle or locking information provided by you during the shipping confirmation or update request processes. The license file may also be sent by email.

Installing the License File

There are two types of license modes, **Standalone** and **Network**. The method for installation of the License File depends on the type of license mode you have. Follow the instructions for the type of license mode you are installing.

Installing Standalone Mode License Files

In **Standalone** mode, the license file must be installed on the same computer as the AspenTech product(s) and, if you have one, the SLM dongle.

Installing License Files for Standalone Mode Automatically

1 Perform one of the following steps:

  o Insert the CD containing the license files into a drive on your computer.

     -or-

  o Open the email containing the license files and copy them to your computer.

2 Rename any old and/or expired license files in the Aspentech shared folder.

  o (64bit OS) *C:\Program Files (x86)\Common Files\Aspentech Shared* and *C:\Program Files\Common Files\Aspentech Shared*

  o (32bit OS) *C:\Program Files\Common Files\Aspentech Shared*

  o Rename any old and/or expired *.slf or *.lic files in these folders to *.slf _old or *.lic_old

3 If you have already installed SLM on the computer, navigate to the drive

where you inserted the CD. Double-click the license file icon Iservrc_080... .
The file will install itself automatically.

-or-

If you do not have an SLM version installed, save the license file to a local disk/hard drive. You will be asked for the location of the file when you install the product. When given the option, click **Yes** to install the file locally.

Installing the License File Using License File Installer

1 Perform one of the following steps:

  o Insert the CD containing the license files into a drive on your computer.

     -or-

  o Open the email containing the license files and copy them to your computer.

2 Save the new license file to a temporary local folder. If your license files are locked to the client computer disk ID, there will be a unique license

file for each client computer. If your license files lock to a network domain, there will be a single, shared, license file that must be copied to each client computer on that domain.

3   Double-click the license file. If SLM Client component is already installed on the computer, the file will automatically install itself to the appropriate directory:

4   (64bit OS) ***<root>\Program Files (x86)\Common Files\Aspentech Shared* and *<root>\Program Files\Common Files\Aspentech Shared***

5   (32bit OS) ***<root>\Program Files\Common Files\Aspentech Shared***

Where <root> is the installation path for Microsoft Windows on your computer.

> **Note:** Starting in aspenONE V8.0, standalone license files are copied to *<root>\Program Files {(x86)}\Common Files\AspenTech Shared* and not *<root>\Program Files {(x86)}\Common Files\Hyprotech\Shared*.

6   Launch the aspenONE License File Installer by performing one of the following actions:

7   On the **aspenONE License File Installer**, click **Browse** and locate your network license file, or folder with multiple licenses.

   o   Double-click the network license file.

   o   Right-click the network license file and select **Install License File**.

   o   From the **Start** menu, select **aspenONE SLM License Manager**, and then click **Install License File**.

   o   Navigate to *<Root>\Program Files (x86)\Common Files\AspenTech Shared\SLMLicInstaller.exe* (for a 64-bit OS) or *<Root>\Program Files\Common Files\AspenTech Shared\SLMLicInstaller.exe* (for a 32-bit OS).

   The **aspenONE License File Installer** appears.

8   The aspenONE License File Installer automatically creates a backup copy of the existing SLF or LIC license file with the same name, and then overwrites it with a copy of the new license file. The license file installer automatically initializes the standalone licenses. A message appears, confirming that the new license file has been updated.

> **Notes:**
>
> - If you manually install standalone licenses, you must run the SLM Configuration Wizard again to initialize all the standalone licenses before using them.
> - If error code 26 – time temper error appears when you run the product, see the "Time Tamper Check" section on page 88.
> - To see the file extension, make sure that on the **Windows Explorer Tools | View | Show/hide** group, the **File name extensions** check box is selected.

Installing the SLM Dongle

To run the AspenTech product, you need the license files and you may also require an SLM dongle. SLM reads a unique locking identity from an SLM dongle or other hardware device. This identity locks the licenses to the

hardware. When the AspenTech product runs, the locking codes must then match the hardware identifier for the licenses to be valid.

SLM Dongle Types

There are two types of SLM dongles:

- SLM parallel port dongles
- SLM USB port dongles

Note: The parallel port dongles are no longer supported. Therefore, upgrading to the latest version will require updating the serial dongle to USB port dongle.

SLM Dongles

SLM dongles are Sentinel SuperPro - Computer ID dongles, manufactured by Rainbow Technologies.

SLM dongle is installed on the USB port of your computer.

Caution: Do not plug the Computer ID dongle in the serial port because it could damage your computer.

USB port connection

SLM dongles can be used for both **Standalone** and **Network** license modes, although each licensing mode requires separately generated license files.

- If you are licensing AspenTech products in **Standalone** license mode, the SLM dongle must be installed on the computer(s) running the AspenTech product.
- If you are licensing AspenTech products in **Network** license mode, install an SLM dongle on each computer that will be used as license servers.

Note: Any computer using the SLM dongle requires certain drivers to communicate with the SLM dongle. For information about installing the Sentinel System drivers, see the "**Sentinel System Driver**" section.

Hyprotech Green Dongles

Hyprotech green dongles are legacy hardware. These dongles are no longer supported. If you have one of those dongles, you should contact the AspenTech Customer Care Team to request an updated license file and dongle.

5 Installing and Configuring the License Server

Purpose

This chapter describes how to install and configure the SLM license server.

Overview

A Network license server computer is made up of the following components:

- License Server software
- Network license file (containing network license strings)
- License Server Tools
- SLM dongle (if you are using dongles)

Tip: Multiple license server computers can be configured to spread the licensing load. This can also be used as a simple and effective form of redundancy.

The best choice for the license server computer is one that is always running, because the network license server computer must be operational for the network users to run the AspenTech products. The most trouble-free installation will result from a license server computer used only for the license server function. This avoids conflicts with other software.

Installing and Configuring a Network License Server

The following summarizes the steps required to install and configure a Network license server:

1 Install the license server software and install the SLM dongle (if required).

2 Install the license file.

Step 1: Installing the Network License Server

To install the license server, SLM dongle and your SLM Administration Tools

1 Before installing the latest version of the Sentinel RMS License Manager license server, shut down and uninstall any existing SentinelLM (or Rainbow Technologies-SentinelLM) network license server. To do this, click **Control Panel | Add or Remove Programs** and remove any program named **SentinelLM X.X.X.X Server**. Make sure that no users are logged on to the server. If any licenses are commuted by users, those licenses must be returned to the server before upgrading.

> **Note:** When upgrading your SLM License Server, follow the same procedure and SLM will modify your server.

2 Restart the computer.

3 Make sure that no Windows programs are running on the computer before starting the network license server installation process.

4 Insert any aspenONE product media into the USB drive of the computer.

> **Note:** For the computers that have the Autorun feature enabled, steps #5 and #6 are automatically performed. Some Aspen products have variants on the way the installation of Network License Server software is initiated.

5 From the **Start** menu, select **Run**.

6 In the **Run** view, type: **d:\setup.exe** and click **OK** (where **d:** corresponds to the drive letter of the USB drive).

The **Welcome** dialog box appears.
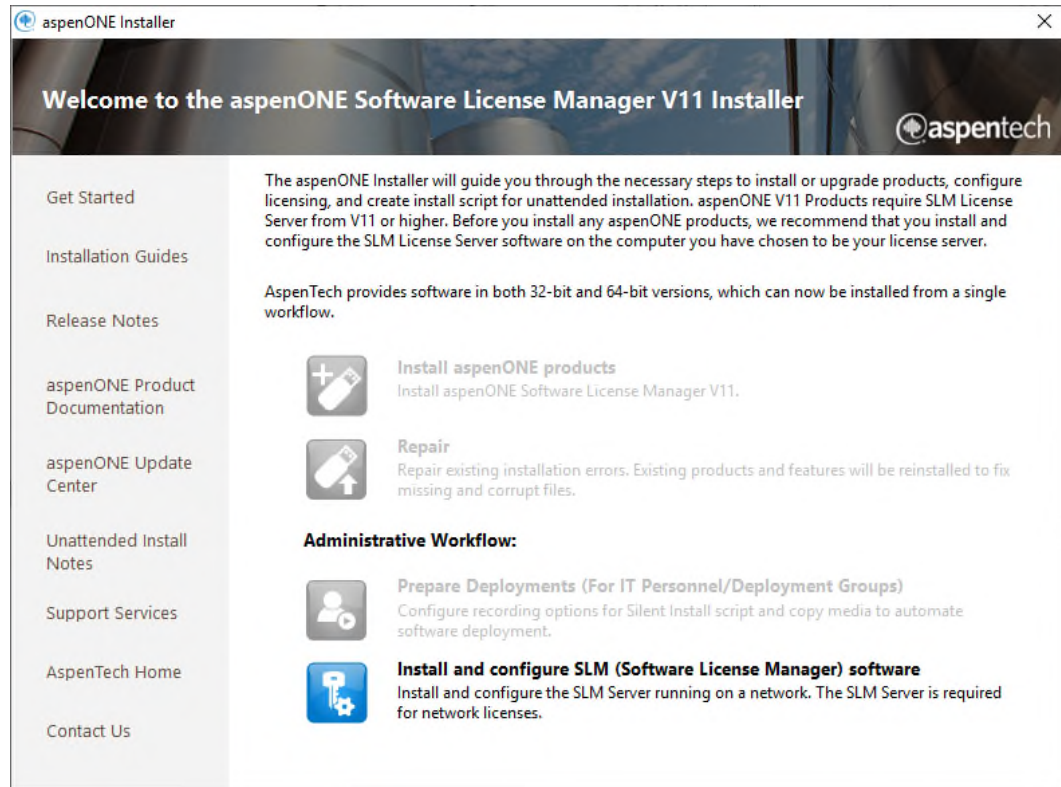
7 On the **Welcome** dialog box, select **Install and Configure SLM (Software License Manager) software**.

The **License Terms** screen appears. Review the license agreement and click **I accept the terms of this agreement**.

8 Click **Next**. The **Choose the aspenONE licensing Products you want to install** screen appears. Select **SLM License Server**, **SLM Server Admin Tool** and **Dongle Driver** to install.

9 Click **Next**. If you have a network license file, click **Browse** on the **Specify License File** dialog box and select it. If you do not have a license file, click **Next** to install the SLM server. Finish the screens.

Important: When installing AspenTech products, you will be prompted to type the name of this license server during the install. AspenTech recommends that you type the fully qualified domain name, such as *licenseservername.networkdomain.com*.

SLM Server is now installed.

Note: If you intend to use Advanced Network Server Features such as Usage logging or Group License Reservation, details on these features can be found in Chapter **7 Advanced Licensing Functions**.

10 Install the SLM dongle into the USB port of your computer. The SLM dongle has an arrow that indicates which end is plugged in.

Note:

- Make sure that the server date and time are correct before attempting to use the license server. If the server platform time and date are set incorrectly, the license server might not issue any licenses because it is performing **TimeTamper** checks. It is not recommended that you change the default settings for your time synchronization service, except for changing the time zone if necessary.
- **Socket Buffer:** The SLM Client and Server communicated through Windows Sockets. The default socket buffer size on a busy SLM Server handling thousands of simultaneous license requests may result in more requests than the server can handle concurrently. Increasing the socket buffer size provides an opportunity for the OS to buffer up the data/requests while the service is busy processing the requests, so that the data/requests can be piped in an orderly fashion to the RMS service. This gives a chance for the server to respond efficiently, rather than letting the requests go unanswered and timed out. The buffer size is incremented in multiples of default socket buffer known as a socket buffer multiplier. The SLM Server is configured to use a default socket buffer of 65535 bytes. With this release, the socket buffer has been increased to 262144 bytes with the "-sbm 4" setting of the LServOpts environment variable.
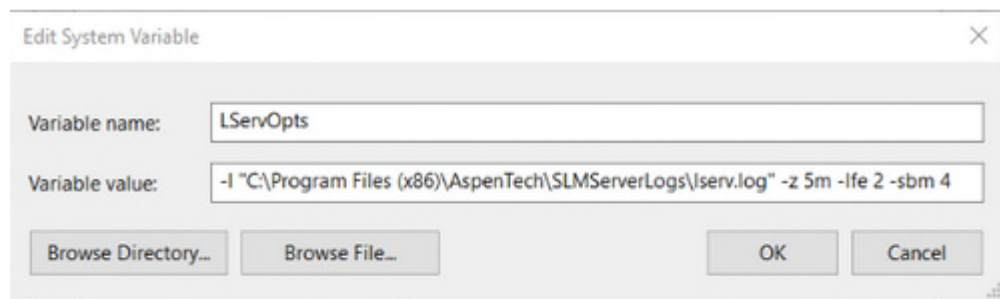
Step 2: Installing the License File

For network licensing, the following must be installed on the SLM license server computer:

- Sentinel RMS License Manager
- The network license file

The SLM dongle (if you use one)

Back up the license file **lservrc** from the folder:

- *SLM Server 7.2:* <root>\Program Files\Rainbow Technologies\SentinelLM 7.2.0.1 Server\English.
- *SLM Server 8.x or higher:* <root>\Program Files *{(x86)}*\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT\

Refer to steps in the "**Installing the License File Using License File Installer**" section on page 28.

Note: Make sure that you reload the license server whenever you change your license file. All users must exit any software using SLM before the reload is performed.

Checking SLM Dongle

The first test you can perform is to check if the SLM dongle is communicating with the SLM system. Use the aspenONE SLM License Manager to perform this test.

1 To get locking information, click **Locking Info** in the SLM License Manager.

2 The **SLM Locking & Configuration Information** view appears.
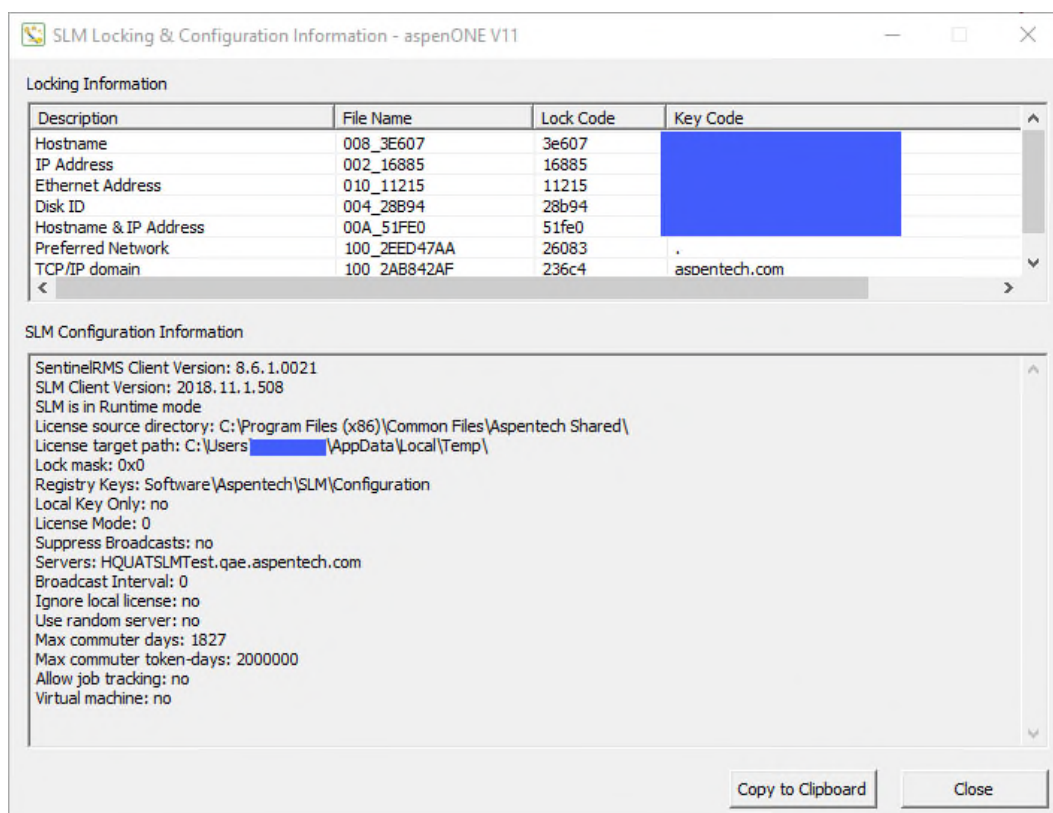
On this view, you can see your license settings. This view displays, among other things:

- o The Sentinel Hardlock (Dongle) number
- o The Host name
- o The serial number and locking code of the IP Address
- o The Ethernet Address

3 Make sure that the SLM dongle is properly installed on your computer.

The SLM dongle is installed on the parallel port (printer port) or the USB port of your computer with an arrow indicating which end is plugged in.

Note: Do not plug the parallel port dongle into the serial port, because it could damage your computer.

4 If your SLM dongle is properly attached to the server and no lock code appears, make sure that you have installed the Sentinel system drivers used by the server to communicate with SLM dongle.

Install the Sentinel System Drivers by following the procedure described in "**Sentinel System Driver**".

To check that the Sentinel System Driver is installed

- Using Windows Explorer, browse to the **Sentinel System Driver** folder and verify that the **SetupSysDriver.exe** file exists. The SetupSysDriver.exe is located at,

```
<root>\Program Files\Common Files\SafeNet Sentinel\Sentinel System Driver\
```

Checking That the License Server Has Been Properly Initialized

After confirming that SLM dongle is communicating with the system, check that the license server has been properly initialized by using the **WLMAdmin.exe** program to confirm that the licenses are available. The **WLMAdmin.exe** program is not installed with the product but is accessible from the media and added to the folder if you install the Admin tools from the media.

WLMAdmin

WLMAdmin is the primary network license administration tool. It is designed to provide access to most of the SLM licensing features and full information on licensing activities at three levels.

This level	Displays
Server	Basic details on the active license servers detected on the network.
Feature/License	Greater detail on the licenses available on each server.
User	Further information on the users currently using the licenses.

Caution: Due to the capabilities of the WLMAdmin, it is recommended that only administrators have access to this tool. It must not be installed with AspenTech products.

Running WLMAdmin

To run WLMAdmin, from the **Start** menu, select **aspenONE SLM License Manager**, and then click **WLM Admin**.

The WLMAdmin view appears.
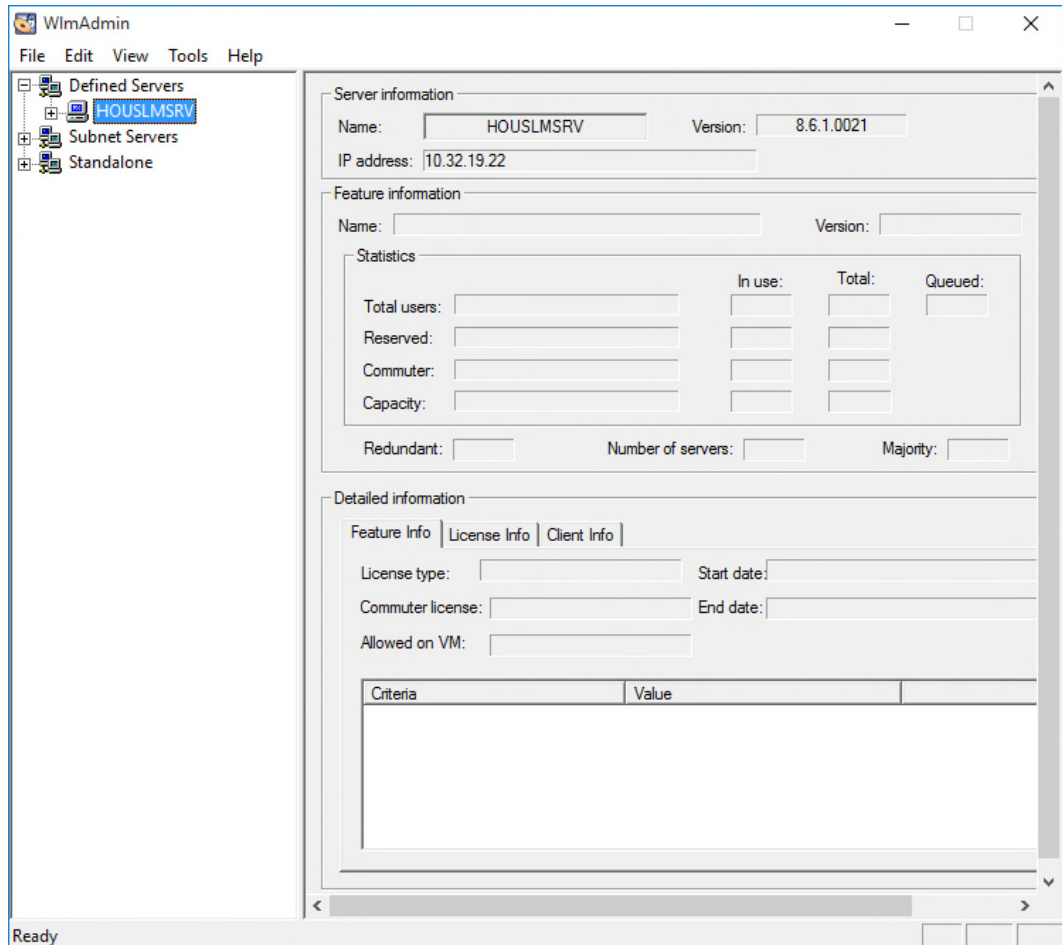
When you first open WLMAdmin, a blank screen appears. After you have set your preferences, WLMAdmin starts in the view mode that was last used provided that this was set up in your preferences.

To set your preferences

- On the **Edit** menu, click **Preferences**.

The **Preferences** view appears.

This table describes the options available.

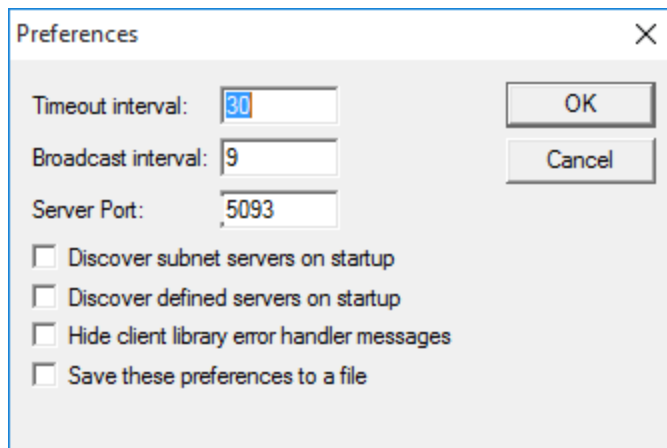| Object	Description
Timeout interval	The time interval (in seconds) given for a license server to respond with license information following a query from WLMAdmin. If only partial information is being returned from the server, try increasing this interval. Partial information returned may indicate network communication problems (see Chapter "**Troubleshooting SLM Problems**.")
Broadcast interval	The time interval (in seconds) between WLMAdmin broadcasts.
Server Port	By default, the port number is **5093**.
Discover subnet servers on startup	Updates server information for the subnet server list on WLMAdmin startup. Not recommended, as WLMAdmin will be slow to start-up if it does a network broadcast.
Discover defined servers on startup	Updates server information for the defined server list on WLMAdmin startup. To retain your defined server list when WLMAdmin is closed, you must select this option.
Hide client library error handler messages	Hide the error handler messages.
Save these preferences to file	In order to keep any of your preferences, including your defined server list, you must select this option.

Note: Preferences are saved to the **WLMAdmin.ini** file.

The **WLMAdmin** view is split into two panes:

- Navigation
- Information

The Navigation pane (located on the left side of the **WLMAdmin** view) contains a tree browser that lets you access the different levels of licensing information.

There are two server lists available:

Server	Description
Defined Servers	This is a user-defined list of license servers. License information is updated quickly because WLMAdmin is directed to a specific list of servers. This list is empty when WLMAdmin is first run. You can add servers to the defined server list using the **Edit	Defined Server List** menu item.
Subnet Servers	This list will be filled after performing a network broadcast to locate all active license servers (in other words, computers running the Sentinel RMS License Manager service) on the same network subnet as the computer from which the query was launched.
	It can take some time to perform the network broadcast, so it is recommended that you generally use a defined server list. Accessing license information via the subnet server list is useful if you do not know the name of the license server from which you are accessing licenses.

Note: The **Subnet Servers** option does not search across network Domains or your local Area Segment. So, if your network server is located in a different office, WLMAdmin requires the Server name to be specified to browse license features.

You can also manage certain licensing activities by using the **Object Inspect** menu of items in the Navigation pane.

The Object Inspect menus in the Navigation pane are accessed by selecting an item (**Server**, **Feature**, or **User**) in the Navigation pane and right-clicking.
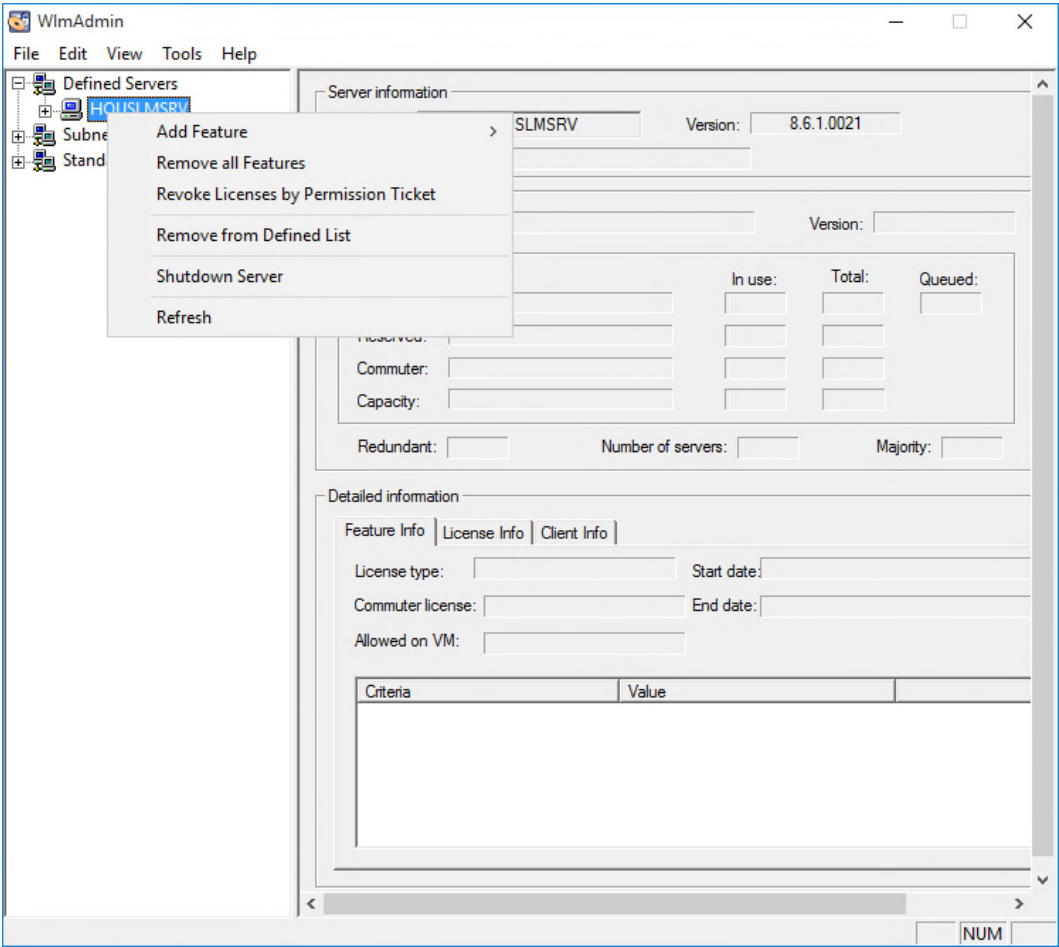
Note: AspenTech recommends that the options in the **Object Inspect** menu be used only under the direction of your AspenTech agent.

The following table describes the options available at all three different levels:

Object Inspect Menu	Server
Server Level	
Add Feature	Attempts to add licenses to the license file in use by the server. You cannot add features without license strings from AspenTech. Because AspenTech will supply you with complete license files, there is no reason to use this option.

Object Inspect Menu	Server
Remove all Features	Attempts to remove licenses from the license server.
Add to Defined List	The server will be added to the defined server list.
Remove from Defined List	The server will be removed from the defined server list.
Change Log Filename	Used to change the log filename; overrides the name set in the LServOpts environment variable. Stopping and reloading the Sentinel RMS License Manager service will cause the log filename to revert to that listed in the environment variable.
Shutdown Server	Used to stop the Sentinel RMS License Manager service on that server.
Refresh	Updates licensing information for this server only.
Feature Level	
Remove Feature	Attempts to remove a license from the license file in use by the server.
Refresh	Updates licensing information for this feature only.
User Level	
Refresh	Updates licensing information for this user only.

The Information pane (located on the right side of the **WLMAdmin** view) displays varying amounts of information depending on the level highlighted in the Navigation pane. The next three views show the information available at the **Server** level, the **Feature/License** level, and the **User** level, respectively.

Server Level
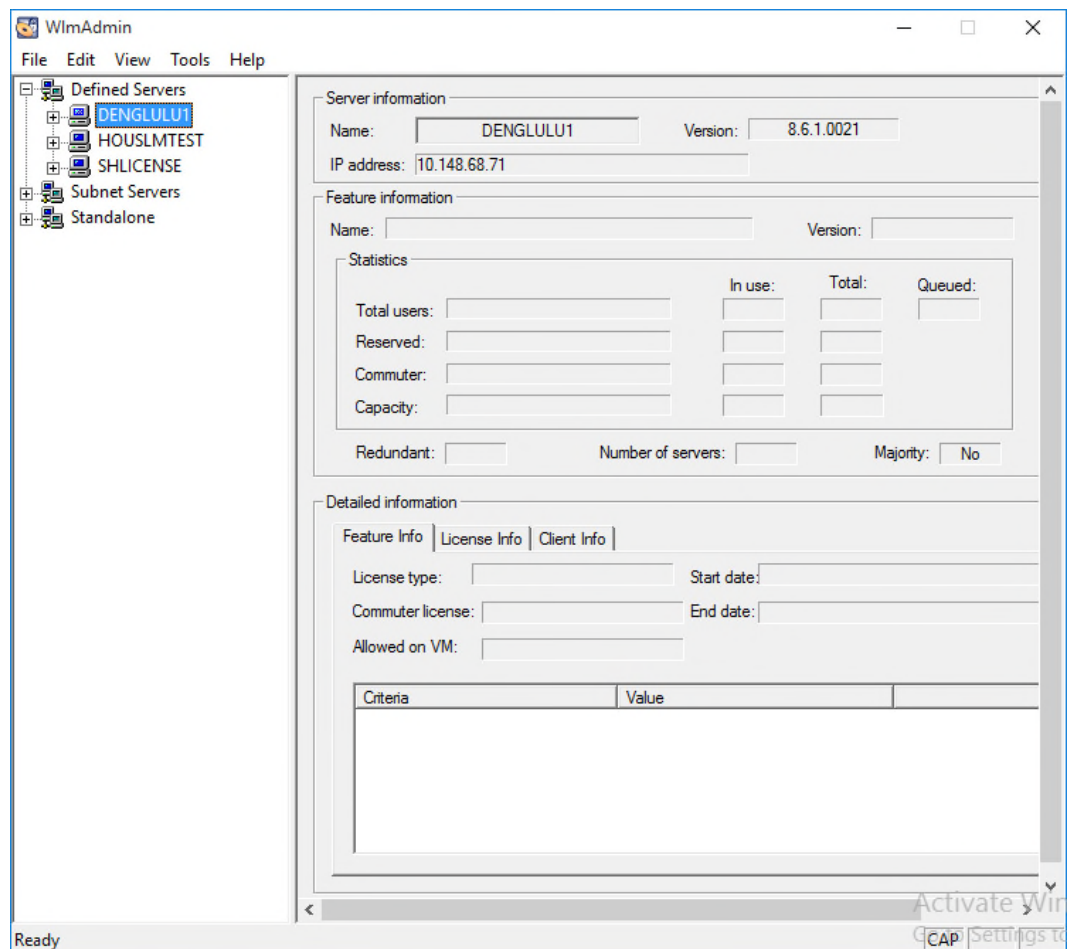
Feature/License Level
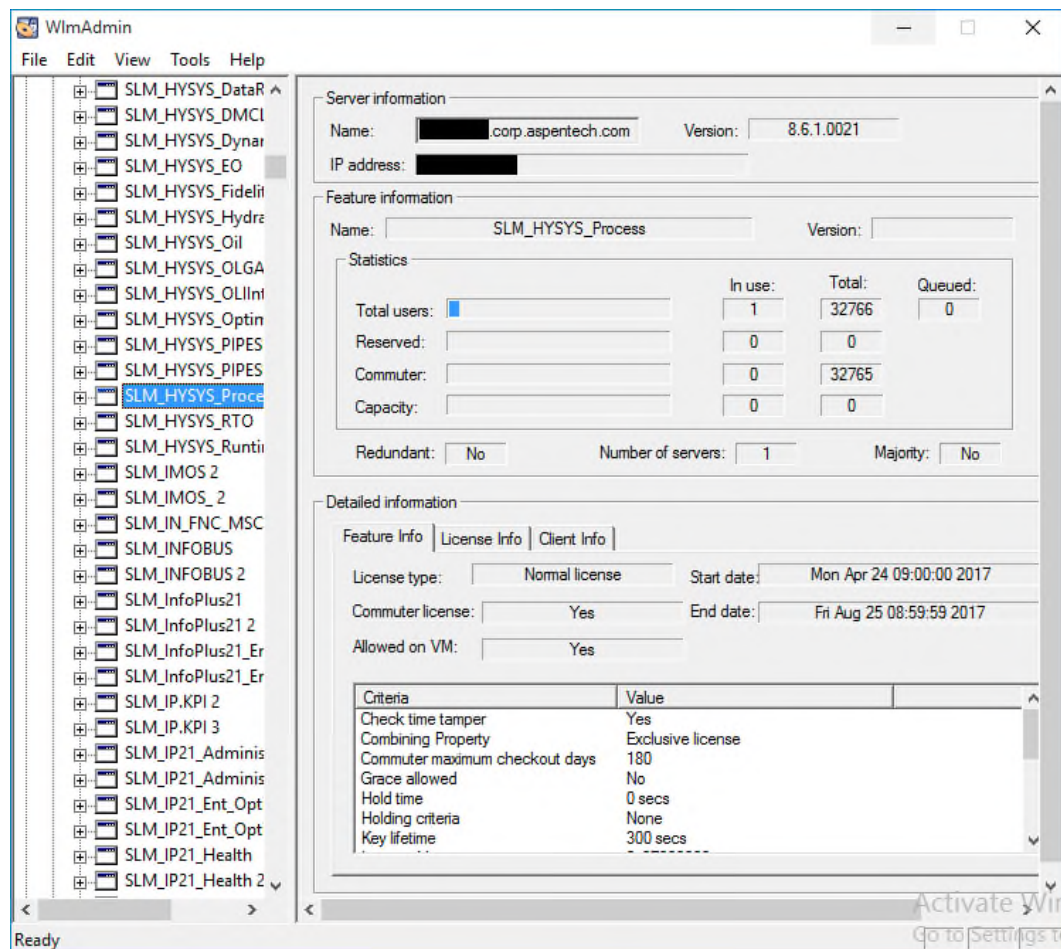
User Level
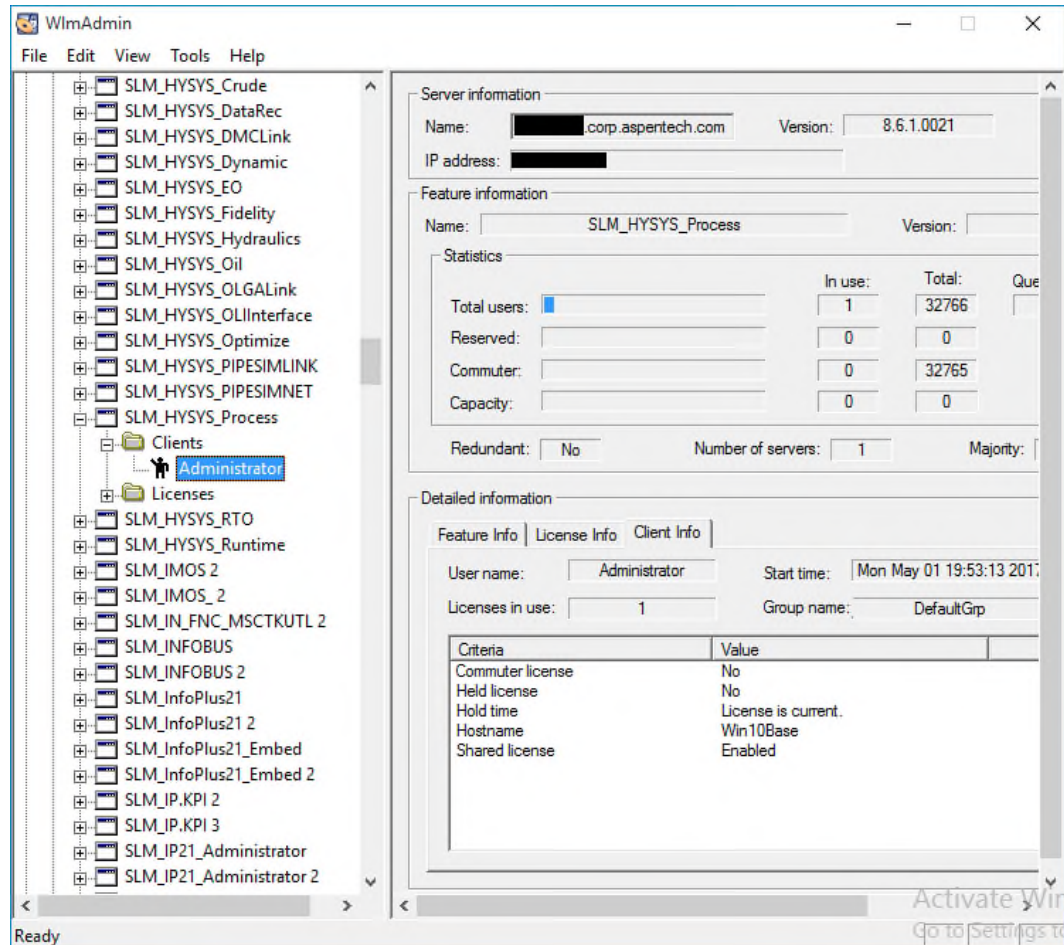
WLMAdmin Menu Bar Options

The following table describes the commands available on the WLMAdmin menu bar.

Command	Description
File | Exit	Exits the WLMAdmin application and closes the WLMAdmin view.
Edit | Defined Server List	Adds/removes/changes server information in the defined server list.
Edit | Reservation File	This option will start the Group Reservation Editor (if available); reservation files can also be edited using a standard text editor. See "Group Reservations" for more details on making reservations.
Edit | Redundant License File	This option will start the **WRLFTool** (if available).
Edit | Preferences	Provides access to the **Preferences** dialog box, on which you can specify preferences for how SLM operates.
View | Status Bar	Displays or hides the status bar of the WLMAdmin

Command	Description
	application.
	A checkmark indicates the status bar appears. No checkmark indicates the status bar is hidden.
View | Refresh All	Updates licensing information for all servers currently displayed in the Navigation pane.
Tools | Generate Revocation Password	Generate a password file to be able to revoke license from a specified license server.
Help | About WlmAdmin	Displays the version number of the active WLMAdmin application.

Table of Required Services on SLM Server

Services	Description
ALC Usage Log Checksum Service	Service to generate the checksum of the license usage data.
Aspen ALC Auto-upload Schedule Service	Service to automatically transmit the usage data to AspenTech.
Aspen Base Load Service	Service to account for base load tokens for the following products, which make use of the base load token contract model: Aspen PIMS, Aspen Supply Chain Planner, Aspen Petroleum Supply Chain Planner (DPO), and Aspen Fleet Optimizer (Retail). For more information, refer to the "**Base Load Token Service**" section on page 24.
Sentinel RMS License Manager	Service for SLM Server.

Network Problems

If your license server cannot be located using the **WLMAdmin** tool, review the following sections.

Check if you have installed the license server software on the server

Use the following steps confirm installation of the SLM license server software.

1   From the **Control Panel**, open **Programs | Programs and Features**.

2   Check the list of currently installed programs and make sure that **Sentinel RMS License Manager 9.2** is present. If it is not present, follow the instructions in "**Installing the Network License Server**" on page 32.

Check if the Sentinel RMS License Manager service is running

If the server is not running, start the server as described below:

1 Open your license tools folder:

> (64bit OS) **<root>\Program Files (x86)\Common Files\Aspentech Shared**

> (32bit OS) **<root>\Program Files\Common Files\Aspentech Shared**

2 Check communication with your SLM dongle by launching **aspenONE SLM License Manager**, then click **Locking Info**. This view displays the serial number and locking code of your Host Name, IP Address, Ethernet Address, and the Sentinel Computer ID number.

If your SLM dongle is properly attached to the server, and the lock code still does not appear, install the Sentinel System Driver by following the procedure described in the "**Sentinel System Driver**" section.

To check that the driver is installed, using Windows Explorer, browse to the **Sentinel System Driver** folder and verify that the **SetupSysDriver.exe** file exists. The SetupSysDriver.exe is located at:

```
<root>\Program Files\Common Files\SafeNet Sentinel\Sentinel
System Driver\
```

3 Check that the license server has been properly initialized by running the WLMAdmin program and checking that the licenses are available. To run the WLMAdmin program, from the **Start** menu, select **aspenONE SLM License Manager**, and then click **WLM Admin**.

The WLMAdmin view is split into two panes:

- The **Navigation** pane is located on the left side of the view. It contains a tree structure that lets you access the different levels of licensing information. There are two server lists available:

  o **Defined Servers**. This is a user defined list of license servers. License information is updated quickly because WLMAdmin is directed to a specific list of servers. This list will be empty when WLMAdmin is first run. You can add servers to the defined server list using the **Edit | Defined Server List** menu item.

  o **Subnet Servers**. This list will be filled after performing a network broadcast to locate all active license servers (in other words, computers running the Sentinel RMS License Manager service) on the network.

It can take some time to perform the network broadcast, so it is recommended that you generally use a defined server list. Accessing license information via the subnet server list is useful if you do not know the name of the license server from which you are accessing licenses.

Note: The **Subnet Server** option does not search across network Domains or your Local Area Segment. So, if your network server is located in a different office, WLMAdmin requires the **Server name** to be specified to browse license features.

- The **Information** pane is located on the right side of the view. It displays varying amounts of information depending what level is highlighted in the Navigation pane.

Now that you have the proper license files in place, the next step is to configure your network user computer to point to your license server. For configuration information, see Chapter **6 Configuring SLM**.

Check the LSHost or LServOpts environment variables or files

Check if the **LSHost** or **LServOpts** values are set to **No_Net**?

1 Go to **Control Panel | System and Security | System**, and then open the **System Properties** view.
2 Click the **Advanced** tab. On the **Advanced** tab, click **Environment Variables**.

The **Environment Variables** view appears.

The variable values for **LSHost** or **LServOpts** are located in the **System variables** table.
3 Make any necessary changes/modification by selecting the variable and clicking **Edit**.
4 Close the **Environment Variables** and **System Properties** views by clicking **OK**.
5 Reboot the computer to make sure these environment variables take effect.

Log Files

The Software License Manager can be configured (via administrator options) to capture the usage for all of the Aspen products in a log file.

The information stored includes the User ID, computer name, date and time of each license taken and returned. The log file can be used to display historical information of the license usage for individual or all users. The log file has a maximum file size that is set by the administrator. The file is saved when it is full, and a new file is automatically created.

The license server log file is set up using the **LServOpts** environment variable.

Checking the Client to Server Connection

Once you have confirmed that the proper license strings are in place, the next step is to check that your network computers points to your license server.

Refer to **SLM Configuration Wizard** or the *SLM Configuration Wizard Help* for more information.

6 Configuring SLM

Purpose

This chapter describes how to configure SLM.

Overview

You can configure SLM using:

- SLM Configuration Wizard. This is the recommended method.
- The environment variables.

Configuring SLM Using the SLM Configuration Wizard

The SLM Configuration Wizard guides you through a series of steps that configures the SLM to generate license keys. The SLM Configuration Wizard is used to configure the SLM on all computers connecting to an SLM server on a network or running SLM locally.

Instructions for using the SLM Configuration Wizard are provided in the *SLM Configuration Wizard Help*.

Note: The SLM Configuration Wizard makes changes to the registry. Therefore, to use the SLM Configuration Wizard, you must have permission to write to the registry. If you do not have permission to write to the registry, contact your system administrator.

Accessing the SLM Configuration Wizard and Online Help

To start the SLM Configuration Wizard

- On the Windows desktop, from the **Start** menu, select **aspenONE SLM License Manager**, and then click **Configure**.

To access the SLM Configuration Wizard Help

• From the SLM Configuration Wizard, click **Help** in the lower left-hand corner of the window.

SLM Configuration Wizard

Once you have confirmed that the proper license strings are in place, the next step is to check that your network computers points to your license server.

1 From the **Start** menu, select **aspenONE SLM License Manager**, and then click **Configure**.

The SLM Configuration Wizard dialog box appears.

2 To add SLM servers to the Configured Servers list: Under **Network License Servers**, in **Server Name or IP**, type the name or the IP address and then click **Add Server**.

3 To configure the **Advanced Settings**:

- o For **Expiration Remainder (days)**, allows you to specify the number of days before a product license expires that a reminder will be sent to you.

- o Select **Enable Broadcasting**, specify the **Interval (min)** if you want the SLM to broadcast (search) for licenses on the network.

- o **Log time zone information**: logs time zone information in the server log.

- o **Ignore local keys:** Ignores the local standalone keys.

- o **Search Configured Servers for all available buckets at Runtime**: indicates whether you do or do not want to search all configured servers for all available buckets.

- o **Log IP addresses:** Logs the IP address in the server log. The log file is saved on the SLM server in the same directory where the license server is installed.

- o **Resolve server name:** When checked (the default setting) the fully qualified server name will be used in the registry. Customers using an alias for license server names can uncheck this setting. The resolve server name is not used in silent installs.

4 To enable **Project Tracking**:

- o For **Project tracking on?,** select **Yes**.

- o Type the **Project Name**. The project name can be any meaningful name used to identify the project.

- o Type the **Department Name** associated with the project.

- o Type the **Location Name** where the project takes place.

- o Do one of the following:
  - o Continue with any additional changes to configuration settings, or
  - o Click **Apply Changes**.

Configuring SLM Using Environment Variables

The environment variables can be used to control some of the operations of SLM. The primary environment variables are:

- **LSHost** is used to direct the search for a network license to a list of preferred servers.

- **LServOpts** is used to set License Server Options including configuration information, usage logging, and error logging. Alternatively, some of these options can be set through their own environment variable (in other words, **LSReserv** and **LServrcCnf**. Where available, it is generally recommended to use these specific environment variables).

Note: If your computer contains both the registry and the **LSHost** environment variables configurations, SLM checks the **LSHost** environment variables first.

Configuring the Environment Variables

To add the environment variables for SLM

1   On your computer, open the **Control Panel**.
2   Go to **System and Security | System**, and then open the **System Properties** view.
3   Click the **Advanced** tab. On the **Advanced** tab, click **Environment Variables**.

   The **Environment Variables** view appears.
4   In the **System Variables** group, click **New**.

   The **New System Variable** view appears.
5   In the **Variable Name** field, type the name of the environment variable as **lshost**.
6   In the **Variable Value** field, type the IP address or hostname of the server(s).
7   Click **OK**.

   The new environment variable and value is added in the **Environment Variables** view.
8   If you do not need to set any more variables, click **OK** to close both **Environment Variables** and **System Properties** views.
9   Reboot the computer to make sure these environment variables take effect.

Configuring the LSHost File or Environment Variable

For an SLM Token system, all environment variables must be configured as system variables. The environment variable or **LSHost** file is used to instruct the application where to search for the Token server(s):

•   The **LSHost** file contains a list of the IP address or computer names for each of the Token servers. When the application searches for the license information, it proceeds using the following steps:

   1   The application starts with the first address on the list of the **LSHost** file.

   2   If the IP address is not available, the server does not provide the license requested. The application's search engine then moves to the next server on the list.

   3   The application's search engine repeats the previous step until it finds a server that provides the license requested.

   The **LSHost** file must be placed in the application root directory for each SLM-protected application. If the application is installed on an application server, the **LSHost** file resides on that server.
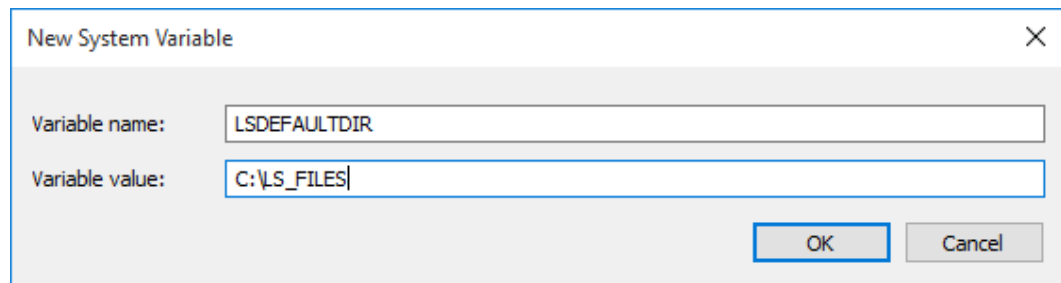
- The **LSHost** environment variable contains an IP address or computer name for a Token server. The environment variable is set on the user's computer.

Note: The **LSHost** environment variable overrides any **LSHost** files on the computer. Normally, it is recommended to use **LSHost** files to avoid interference with any other vendor security that may also be using **LSHost**.

Caution: If you have other vendor securities already using the **LSHost** environment variable, then consider using an **LSHost** file for each AspenTech product or a master **LSHost** environment variable, which lists the license servers for both your AspenTech and other vendor products.

LSDefaultDir Environment Variable

You can use the **LSDefaultDir** environment variable to set the default location of the license file. AspenTech recommends that the license server's default directory *not* be changed. The default directory is in the same directory as the license server executable.

New System Variable		×
Variable name:	LSDEFAULTDIR	
Variable value:	C:\LS_FILES	
	OK	Cancel

LServOpts Environment Variable

The **LServOpts** environment variable is used to set network license server options.

Notes:
- This variable is set as a system variable and not a local user environment variable.
- Some of the options that can be set with LServOpts can also be set with a specific environment variable (which is recommended to be used whenever possible).

Possible Variable Values of the LServOpts Variable

Option	Description

Option	Description
-s license file	Specifies the name and location of the license file. By default, the license server uses the file, **lservrc**, in the local directory. This can also be specified with the LServrc environment variable.
-e license configuration file	Specifies the name and location of the optional license configuration file. This can also be specified with the LServrcCNF environment variable.
-l usage log file	Enables usage logging by specifying the name and location of the usage log file (you can not include any spaces in the path name). A typical log file name is **lserv.log**. (This is limited to eight characters.) By default, usage logging is disabled.
-z usage log file size	Specifies the maximum size of the usage file. The default value for the maximum size of the log file is 5 megabytes. The size can be specified in bytes, kilobytes, or megabytes. For example, **-z 2000** means **2000 bytes**, **-z 2k** means **2 kilobytes** and **-z 2m** means **2 megabytes**. Once the maximum size of the file is reached, the license server creates a backup log file (unless the **-x** option has been used). The maximum number of backup files is 9999. However, you can move existing backup log files to another directory and the license server begins logging again.
-x	By default, on overflow of the usage log file, the file contents are moved in to a backup file. New usage records are then written to the original file until it overflows again. If the **-x** option is specified, the file will not be backed up on overflow. Instead the license server will simply stop writing further records to the file.
-smb	Specifies the socket buffer multiplier. By default, the socket buffer multiplier is set to 4. This increases the socket buffer by a multiple of 4 to 262144 bytes. Increasing the socket buffer size provides an opportunity for the OS to buffer up the data/requests while the service is busy processing the requests, so that the data/requests can be piped in an orderly fashion to the RMS service. This gives a chance for the server to respond efficiently, rather than letting the requests go unanswered and timed out.

Option	Description
-com percentage	Commuter licensing uses the same license strings as other network licenses. To ensure that not all licenses are used up by commuters, set this option to the percentage of licenses you want used for commuter licensing. Once that proportion of license are used up, no more will be made available to commuters until commuter licenses are returned.
-lfe encryption level	Specifies the level of encryption that license transactions are written to in the licenses server log file. The levels are 1 to 4: 1 - No encryption. 2 - No encryption. Transaction data is readable, but tampering with or deleting an entry can be detected. This is the default encryption level. 3 - Encrypt usage only. Transaction data is readable except for license usage data. 4 - Encrypt entire record. All transaction data for the license s is encrypted. Level 2 is recommended if you wish to generate any reports on the usage data. If your contract requires that log files to be sent to AspenTech, level 2 **must** be used.
-u group reservations file	Specifies the name and location of the optional group reservations file. By default, the license server uses the **LSReserv** file in the current directory. This can also be specified by the **LSReserv** environment variable.

Setting the Usage Logging

The following figure displays the **New System Variable** view containing the information for a usage log file with a maximum size of 5 megabytes and level 2 encryption. When typing the path and name of the log file, there can be **NO** spaces and quotes are not required.
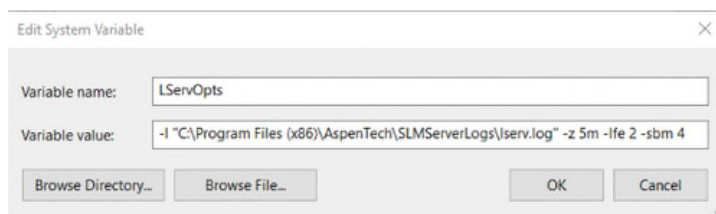
If you activate the usage logging option, the network license server records all license requests and writes to this file. The generated usage log file may be sent to AspenTech using the Auto Upload Tool, and customer can download various usage reports from AspenTech customer support web site.

Note: If you have a large user base, it is advisable to configure the maximum log file size to a higher value. For example, set it to 7m instead of 5m.
Once this set file size is reached, SLM Server backs up the current usage log file to another file in the same folder and starts a new log file. If the total number of files reaches 9999, server will stop logging the usage. For example, if the trace log file name is **trace.log** then the first trace log file will be **trace.log.00** and the last trace log file in the series will be **trace.log.9999**. You must move the older files to another location for the server to continue to log the usage. Auto Upload Tool has the ability to automatically move the files to another location and transmit the log files to AspenTech.

LServrcCNF Environment Variable

The **LServrcCNF** environment variable can be used to set the name and location of the network license server configuration file. This file is used in setting up user alerts and other options. If LServrcCNF is not used to specify the configuration file, then the configuration file resides in the same directory as the license file and has the same base name as the license code file but with the extension *.**cnf**.

It is recommended that the default name and location be used for this file. In most installations, this file is called **lservc.cnf**. It resides in the license server default directory.

| Variable Name: | LSERVRCCNF |
| Variable Value: | C:\LS_Files\NETWORK.CNF |

LSHost Environment Variable

This variable is set on your computer. When the application is activated, it first tries to identify a standalone license. If there is no standalone license, it will then attempt to obtain a license by searching for license servers over the network. This broadcast search is limited to your local network subnet. If the License Server is located outside the user's local subnet, then the IP address/hostname of the server must be specified to the remote network license server for the Aspen (AspenTech) application(s) to establish a connection.

For environment variables, there are three ways you can specify the connection to the proper license server. The following lists the steps AspenTech applications take to look for a license server:

- If the **LSForceHost** environment variable is set, the application looks for the specific license server host listed in that variable. If it cannot find that computer, an error message appears, and the application closes.

    Note: AspenTech does not recommend using the **LSForceHost** environment variable, as it has been proven unreliable during testing.

- If the **LSForceHost** and **LSHost** environment variables are not set, then a check is made for a file with the name **lshost** in the application root

directory. If this file is found, then the application looks for any of the license server hosts listed in the file.

The **LSHost** environment variable naming conventions are:

- Any valid hostname recognized by your network.
- Numeric names (IP address).

  Note: If you are using a network system where the DNS is variable, then you cannot use the IP address for this purpose.

- **NO_NET** to disable the default network broadcast mechanism from searching the network for a network license server. With this setting, the application will only look for a standalone license file.

LSHost Environment Variable

The **LSHost** environment variable is used to tell the application to search for one or more license servers.

Note: When using multiple server names on the same line you need to separate the names, in both the environment variable string and **lshost** file, with a colon (**:**).

When this variable is set, the application attempts to contact each server in the list beginning with the first license server in the list. If none of the specified license servers is found, the application stops searching and returns an error. LSHost disables the network broadcast search for servers.

The **lshost** file works the same way as the **LSHost** environment variable.

Tip: The **lshost** file does not have a file name extension attached to it.

The **lshost** file must be placed in the application root directory. The following is an example of a **lshost** file.

```
# This is a generic lshost file
# Created June 20, 2000

TESTSERV_1
TESTSERV_2:TESTSERV_3:#TESTSERV_4
TESTSERV_5
```

This file searches for TESTSERV_1, TESTSERV_2, TESTSERV_3, and TESTSERV_5, in that order. Notice that TESTSERV_4 has been commented out. Anything that follows a pound symbol (#) is treated as a comment.

LSForceHost Environment Variable

The **LSForceHost** environment variable is used to *force* the application to look for a single license server computer. LSForceHost overrides an **LSHost** environment variable or a **lshost** file, and disables the network broadcast search for servers.

Note: LSForceHost is used by all Sentinel License Manager protected products. Therefore, its use could interfere with the security used by other applications also protected using Sentinel Computer ID dongles. Use LSForceHost only as a last resort.

7 Advanced Licensing Functions

Purpose

This chapter describes the advanced licensing functions.

Overview

Network licenses provide the administrator with access to many advanced licensing functions. These are primarily:

- Using Alternate Licensing Configurations.
- Commuting licenses for use when no network connection to a license server is available. This is an optional feature at additional cost. For more information, contact your AspenTech sales representative.
- Stopping or Changing the License Server.
- Setting user options. The two types of user options you can set are:
  - o **User Alerts**. User Alerts let you know about certain license events. There are seven alert types that can be generated using two different reporting types.
  - o **Group Reservations**. Group Reservations reserve licenses for particular users. Group Reservations can also exclude particular users from license access.

Using Alternate License Configurations

Pooling SLM Dongles

It is possible to configure the user computers so that a pool of standalone SLM dongles can be shared. For example, if you want to use 10 different AspenTech products, and each product has its own license file and SLM dongle, you must install all 10 different license files on your computer. When you run the various AspenTech products, you can just switch between the 10 SLM dongles, without the need to reconfigure your computer each time a different license file is required.

Mixing Standalone and Network Modes

You can configure computers to have both standalone and network modes. For example, if you need to run two AspenTech products: product A is on a standalone license and product B can be accessed from the network. To achieve this configuration, you must install the SLM dongle and license file for product A on your computer, while the SLM dongle and license file for product B is installed on the network computer server. When you run either product A or B, SLM will locate the required SLM dongle and license file.

Configuring the SLM using Registry Variables

You can configure the SLM operation options and registry variables directly instead of using the SLM Config Wizard.

The table below describes the SLM registry variables. The settings are under **HKEY_LOCAL_MACHINE\SOFTWARE\AspenTech\SLM\Configuration**.

Parameter	Range	Default	Description
No-Net	0, 1	0	When this parameter is set to **0**, the machine will look for a standalone license first then it will look for a network license server. With this parameter set to **1**, the application will only look for a standalone license file.
SuppressBroadcasts	0, 1	0	When set to **1**, SLM will attempt to check each server in the configured server list until it finds a license. If it is unsuccessful, the application will exit with error.
			The benefits of this are that it limits the network broadcast for license servers and keeps the amount of network traffic to bare minimum. This feature only applies to the Unified license.
SLMMAXCOMMUTERLICNUM	1 to the maximum available on server	Maximum available on server	This setting lets you specify the maximum number of copies of a license you can commute, so as to support running multiple instances of an application using commuted licenses.

Commuting Licenses

Use Aspen SLM Commute (SLMCommute.exe) to borrow licenses from a network server. These borrowed, or commuted, licenses allow a client computer to run the licensed product while disconnected from the network without the use of a SLM dongle.

Note: You must run Aspen SLM Commute when connected to the License Server network to obtain and verify the licenses required.

The commuted time is specified in days, with a maximum of 30 days. The licenses can be returned prior to their expiration date. In order to successfully commute a license, the commutable feature must be activated in the license file.

Checking Out Commuter Licenses

1   Make sure you have an AspenTech product open before you commute. Otherwise, the commuting facility can take a long time to start up.

2   From the **Start** menu, select **aspenONE SLM License Manager**, and then click **Commute**.

The **SLM Commute** dialog box appears.

Aspen SLM Commute displays the servers you have configured using the SLM Configuration Wizard and enables you to check out licenses from those servers.

Commuter Option	Description
Add Server	Server searches for and displays a specified license server. Requires you to specify the license server's computer hostname, IP address, or IPX address in the field provided.
Scan Sub-Net	Searches for and displays all of the license servers on your subnet.
Commute	Checks out the licenses selected.
Return	Returns the specified licenses.
Return All	Returns all licenses.

3 When the program loads, if the server from which you want to commute licenses is not shown:

Type in the **Add Server** field either:

o   The Server name

o   The IP Address

Click **OK.**

Commuter Servers

Server Name or IP		Add Server

This causes SLM Commute to display the licenses on the server you specified. To find a server from which to commute licenses, click **Sub-Net**.

Important: Make a note of the server you are using, because you must return the commuted licenses to the same server.

Once the server has been located, all the available commuter licenses are listed. The license list may take some time to appear.

Note: If you want to see more licenses, resize the window by pulling on its bottom edge.

4 You can view licenses by product or by server. Click the **Licenses by Products** tab. You can select one or more licenses under the product.

Click the **License By Server** tab. You choose one or more licenses and the number of licenses you want to check out.

SLM Commute - aspenONE

Server   Help

View available licenses by Server or by Product. Select the licenses you want to commute, then click Commute.

| Licenses By Product | Licenses By Server | Recently Commuted |

SLM Server(s)	Token Value	No. of Licenses
☐ SLM_FiredHeater	7	1
☐ SLM_Flarenet	10	1
☐ SLM_HYCON_APP	0	1
☐ SLM_HYCON_COM	0	1
☐ SLM_HYCON_HI	20	1
☐ SLM_HYCON_HI_ADM	0	1
☐ SLM_HYCON_THERMO	10	1
☑ SLM_HYSYS_ACMOp	3	1
☐ SLM_HYSYS_Amsim	3	1
☐ SLM_HYSYS_Crude	3	1
☐ SLM_HYSYS_DMCLink	0	1
☑ SLM_HYSYS_DataRec	6	1
☐ SLM_HYSYS_Dynamic	22	1
☐ SLM_HYSYS_EO	4	1
☐ SLM_HYSYS_Fidelity	0	1
☐ SLM_HYSYS_Hydraulics	18	1
☐ SLM_HYSYS_OLGALink	0	1
☑ SLM_HYSYS_OLIInterface	9	1
☐ SLM_HYSYS_Oil	0	1
☑ SLM_HYSYS_Optimize	5	1
☐ SLM_HYSYS_PIPESIMLINK	0	1
☐ SLM_HYSYS_PIPESIMNET	0	1
☑ SLM_HYSYS_Process	14	1
☐ SLM_HYSYS_RTO	6	1
☐ SLM_HYSYS_Runtime	8	1
☐ SLM_INFOBUS	0	1
☐ SLM_IP21_Administrator	0	1
☐ SLM_IP21_Ent_Option	0	1
☐ SLM_IP21_Health	0	1
☐ SLM_IP21_PointsRatio	0	1
☐ SLM_IPINFOPLUS21	0	1
☐ SLM_InfoPlus21	0	1
☐ SLM_InfoPlus21_Embed	0	1

Number of tokens to commute: ⑦   37 ▲▼

Days to check out license from server(s):   1 ▲▼   [Commute]

Note: It is recommended that you select only the licenses you will need. For example, if you are commuting licenses for HYSYS and are unsure of which licenses you will need to run your case, you can use a capability in HYSYS to display the licenses that are in use in the case that is loaded. In HYSYS, select **File | About** from the ribbon, and then click **Licensing Information**.

5 In the **Days to check out license from server(s)** field, type the number of days you require the license(s). The number of days can be any integer from **1** through **30**.

6 Click **Commute**.

If the commute is successful, SLMCommute displays the list of commuted licenses.

The license or licenses are temporarily released from the server to your hard drive.

7 Close **SLM Commute**.

You can now run your licensed product away from the network.

Your license automatically expires at midnight on the last day of your license period. If you return to the network, you can return the license to the network before the expiry date using SLM Commute, as described below.

Returning Commuter Licenses

AspenTech recommends that you return Commuter licenses as soon as you reconnect to the network after your period away.

You can have only one instance of commuting per computer, so if you need additional licenses, you must return all the licenses you currently have commuted, and then re-check out all the licenses you require.

1 To run the commute program, from the **Start** menu, select **aspenONE SLM License Manager**, and then click **Commute**.

2 To return the commuted licenses, click the licenses you will be returning.

---
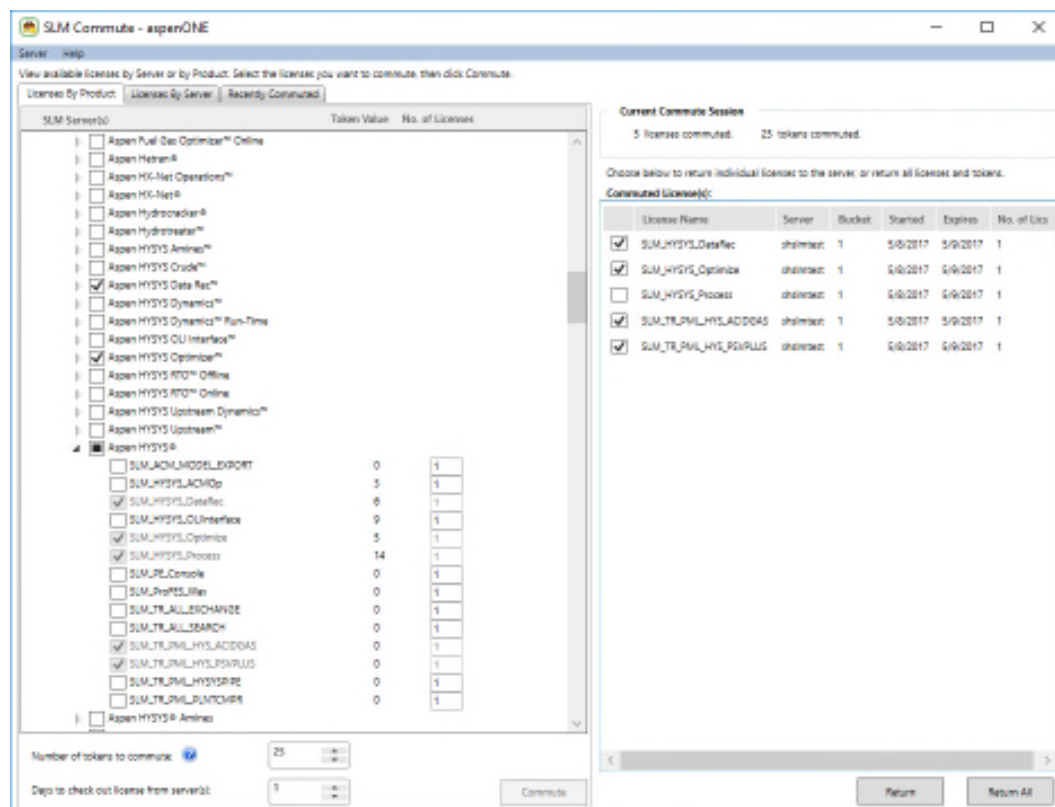
3 Click **Return**.

All the licenses you selected are returned. You can also click **Return All** to return all licenses to server.

Recommended Practices

To maximize the efficiency of your network licenses when commuting:

- Do not take any more licenses than you need.
- Take the licenses only for the period that you require.
- Always check licenses back in when you reconnect to the network.
- Make a note of the server names or IP addresses.

Tip: If you find SLM Commute is slow, open a licensed product before running SLM Commute.

License and Product Names

In order to commute the correct licenses when the AspenTech product is used offline, you need to be familiar with the list of licenses that their AspenTech product uses.

Commuting the Licenses from a Remote Location

As long as you can communicate with the License Server, you can commute licenses from that server. Any program that allows remote access to your network can be used.

Note: Commuting from a remote location requires a very stable connection. If the connection is lost at any time during a commuter transaction when taking or returning licenses, the commuted license may become corrupted on either your workstation or the license server.

Stopping or Changing the License Server

If there is no substantial change to the license server, stopping and restarting the **Sentinel RMS License Manager** service, including powering down and restarting the computer, has no effect on actively commuted licenses. Examples of changes requiring a reboot include an unrecoverable hardware failure, a reformat of hard drive, or the installation of a new operating system.

Any addition or upgrade to a license file (for example, changing the expiry date) has no effect on commuted licenses. However, if there are actively commuted licenses and a fundamental characteristic (for example, the number of tokens it requires) of a license is changed on the server, it is

possible that the commuted license will not return itself properly. In this case, it must be left to expire.

> **Note:** AspenTech recommends that you return all commuted licenses before upgrading the license server program.

Setting User Options

SLM also contains other options that are set by using specific configuration files: User Alerts and Group Reservations.

User Alerts

User Alerts let you know about certain license events. There are several alert types that can be generated using two different reporting types.

Configuring User Alerts

To enable alerts, you need a configuration file with information on the license strings in the license file. The configuration file, **lservrc.cnf**, is a general-purpose configuration file associated with a particular license file.

The **LServrcCNF** environment variable can be used to set the name and location of the network license server configuration file. This file is used in setting up user alerts and other options. If **LServrcCNF** is not used to specify the configuration file, then the configuration file resides in the same directory as the license file and has the same base name as the license file but with the extension *.**cnf**.

It is recommended that the default name and location are used for this file.

Configuring the LServrcCNF Environment Variable

Refer to steps in section **Configuring the Environment Variables**.

Defining the Alert Types

Each alert action has the following format:

```
<alert-type> = <reporting-type1> ON/OFF <reporting-type2> ON/OFF
```

where **alert-type** can be:
- **hardlimit**. Hardlimit exceeded.
- **appstart**. License issued.
- **appstop**. License returned.
- **denied**. License denied.
- **apptimeout**. License time-out.
- **expired**. License expiration date.

and **reporting-type** can be:

- **email**. E-mail will be sent to recipients given after **EMAIL=.**

  Note: Line continuation is not supported, so all e-mail addresses must fit on one line. The maximum line length is 512 characters.

- **script**. The script given after **SCRIPT=** will be invoked.

  Note: In order to use e-mail alert, you must configure the license server using **lsmail.exe**.

You must configure the Sentinel RMS License Manager 8.6 to automatically install **lsmail.exe**. The default location for lsmail.exe is:

```
<ROOT>:\Program Files\Common Files\SafeNet Sentinel\Sentinel RMS
License Manager\WinNT
```

Run the **lsmail.exe** application. At the prompt, type the host name or IP address of an MS Exchange server.

This is a sample configuration file of 'lservrc.cnf', normally placed in the directory where the license server is installed:

```
[AEA_HYSYS_Process *]
softlimit = SCRIPT OFF EMAIL OFF
hardlimit = SCRIPT OFF EMAIL OFF
appstart = SCRIPT OFF EMAIL OFF
appstop = SCRIPT OFF EMAIL OFF
denied = SCRIPT OFF EMAIL ON
apptimeout = SCRIPT OFF EMAIL OFF
expired = SCRIPT OFF EMAIL OFF
EMAIL= Administrator@hyprotech.com
[AEA_HYSYS_Dynamic *]
softlimit = SCRIPT OFF EMAIL OFF
hardlimit = SCRIPT OFF EMAIL OFF
appstart = SCRIPT OFF EMAIL OFF
appstop = SCRIPT OFF EMAIL OFF
denied = SCRIPT OFF EMAIL ON
apptimeout = SCRIPT OFF EMAIL ON
expired = SCRIPT OFF EMAIL OFF
EMAIL= Administrator@hyprotech.com
[* *]
softlimit = SCRIPT OFF EMAIL ON
hardlimit = SCRIPT OFF EMAIL OFF
appstart = SCRIPT OFF EMAIL OFF
appstop = SCRIPT OFF EMAIL OFF
denied = SCRIPT OFF EMAIL OFF
apptimeout = SCRIPT OFF EMAIL OFF
expired = SCRIPT OFF EMAIL OFF
EMAIL=Administrator@hyprotech.com
```

This configuration file requests the license server to send an e-mail through lsmail.exe if:

- A license is denied for HYSYS or HYSYS Dynamics.
- A license times out for HYSYS Dynamics.
- The softlimit is exceeded for all the features available in the license file ([* *]).

Group Reservations

Group reservations let you associate user groups with each feature. A certain number of licenses for that feature are then reserved in a pool for these user groups. Any licenses not specifically reserved remain in the general pool.

A group specification consists of the following:

- Name of the feature for which the reservation applies
- Name of the group
- Number of licenses reserved for that group
- Login names of users/host IDs of computers belonging to that group

The following restrictions apply:

- The groups must be mutually exclusive.
- Different groups using the same feature cannot have common users or computers.
- The number of licenses reserved for a feature cannot exceed the number of concurrent copies specified in the license string for that feature.

When the license server receives a request, it checks whether the user making the request belongs to a group.

If this is the case	Then
• The user making the request belongs to a group **-and-** • Licenses are available for that group	The license server issues the license(s) and removes it from that group's pool
The user making the request does not belong to a group	The license server issues the license(s) from the general pool until no licenses are available
• The user making the request belongs to a group **-but-** • Licenses are NOT available for that group	The license server issues the license(s) from the general pool until no licenses are available

Configuring a Group Reservation File

Group reservation information is normally held in a text file called **lsreserv** (no extension). By default, this file is placed in the Sentinel server directory:

```
<ROOT>:\Program Files {(x86)}\Common Files\SafeNet
Sentinel\Sentinel RMS License Manager\WinNT
```

This is the same location as the server program (usually **lservnt.exe**) and the license file (**lservrc**).

> **Tip:** If you want, the **LSReserv** environment variable can be used to set a different file name or path to the reservation file. For more information about environment variables, see "**Configuring SLM Using Environment Variables**."

Group reservations are entered according to the following format, with one group per line:

```
feature_name[ ,ver ]:group_name:num_of_licenses:{user_name |
computer}
```

One or more user names and/or computer names can be specified, but at least one value must be specified in the last field. User and computer names must be separated by a space. The version number is optional.

Sample Group Reservation File:

```
## This is a sample Group Reservation file
## File name: lsreserv
## In this sample there are 3 Dynamics licenses being reserved
for
## the user group Dynamics_Experts which contains 4 individuals;
## if there are more than 3 Dynamics licenses available
## on the server the remainder will be available for general use.
## Additionally anyone logging in to the computer named "Control"
## may access Dynamics. Michael is not allowed to access Dynamics
## at all (even via "Control").
SLM_HYSYS_Dynamics:Dynamics_Experts:3:Bob John Mary Doug $Control
!Michael $10.32.53.21 $12.34.5.*
```

Note: The characters **$** and **!** have special meaning. **$** indicates the name is a computer name, and **!** indicates a logical NOT.

Excluding Users or Computers from Using a Feature

Specifying a user/computer in a group using the logical NOT (!) excludes that user/computer from any use of that feature. This means that the user/computer is prevented from using that feature, even if there are licenses available in the general pool.

Guidelines for Writing a Reservation File
- Once the reservation file has been created, stop and start the SLM service using **loadls.exe**. There is no need to re-start the computer.
- Make sure you press **Enter** after the last line in the reservation file; otherwise, the last line in the reservation file is not taken into account.
- There is no comment in the SLM log file showing that the server is using a reservation file.
- WlmAdmin will show the current number of users for each license, the maximum number of users, and the number of reserved licenses.
- Comment lines start with **##**.
- There is no entry in the SLM log file showing that a reservation is used.
- Use the noone keyword in order to prevent anyone from using certain licenses, for example,

```
              SLM_AspenProperties:  Grp2:2:     noone
```

- Use **$<*computer name*>** to allow any user logged on a specific computer to use the license. The line below will reserve 2 Aspen Properties licenses to user1 and any user logged on to the computer machine1:

```
              SLM_AspenProperties:  Grp2:2:     user1 $machine1
```

- Use !<username> to prevent a user from using a specific license, even if a license is available and not reserved. The line will prevent user2 from using Aspen Properties:

```
              SLM_AspenProperties:  Grp2:2:     user1 $machine1 !user2
```

- When a license key is refused to the user, the following error message appears on the client computer. This is a standard message that also appears when there are no more licenses available on the computer.
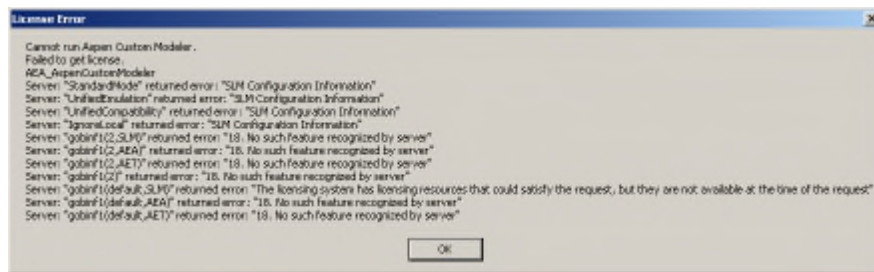
License Version

The license version should only be used if several buckets are used in the license key file. A bucket is a set of licenses, using one or several licensing techniques (standard, token or bundle). The license version can be found by looking at WlmAdmin. For more information about licenses and versions, see the "**Determining the Number of Licenses Available in a File and Their Versions**" section on page 71. License version number is same as the bucket number.

If several buckets are available, the following syntax can be used:

```
SLM_AspenCustomModeler:    Grp1:5:    user1 user2
SLM_AspenCustomModeler,1:  Grp2:4:    user3 user 4
SLM_AspenCustomModeler,2:  Grp3:3:    user5 user6 user7
```

The first line is for the default bucket, the second for the Aspen Custom Modeler license in bucket 1, the third line for the Aspen Custom Modeler License in bucket 2.

Reservation File for Standard Licenses

In a standard license file, a maximum number of simultaneous users is set for each product. A reservation allows reserving a certain number of licenses of each product to different groups of users. For example:

```
SLM_AspenPlus:          Grp1:10: user1 user2 user3
SLM_AspenCustomModeler: Grp2:5:  user1 user2 user4
SLM_AspenProperties:    Grp3:2:  user1 $machine1 !user2
```

The first line will reserve 10 Aspen Plus licenses to user1, user2, and user3. The second line will reserve 5 Aspen Custom Modeler licenses to user1, user2, and user4. The last line will reserve 2 Aspen Properties licenses for user1 and any user logging onto the computer machine1. The last line also prevents user2 from using Aspen Properties.

Reservation File for Token Licenses

With a token license key, the reservation can be made on the total number of tokens but also on each individual product.

In a version 4 license file, the total number of tokens is set in feature SLM_Pool. In addition, a maximum number of users is set for each product (for example, SLM_AspenCustomModeler). Both the SLM_Pool feature and the individual product feature can be used in the reservation file.

For example:

```
SLM_Token:Grp1:100: user1 user2 user3
```

Will reserve 100 tokens to the three users listed, regardless of the product they use.

Simultaneously, a reservation can be made on each product:

```
SLM_AspenPlus:Grp2:10: user1 user2 user3
```

This will reserve 10 Aspen Plus licenses to the group of three users. Typically, the maximum number of users is set to 32766 users for each product, except special license agreements.

The following code sample is an example of a reservation file for a version 4 token license. In this case, we assume only one bucket is available in the license file. Hence, there is no version number. user1, user2 and user3 have 60 tokens and all of the AspenCustomModeler licenses reserved and 150 tokens are reserved for user4 and user5.

```
SLM_AspenCustomModeler:Grp1:32766: user1 user2 user3
SLM_Pool:Grp2:60: user1 user2 user3
SLM_Pool:Grp3:150: user4 user5
```

Reservation File Characteristics
- A maximum of 256 groups, each with 1000 members—user names, host IDs, IP addresses (IPv4 and IP v6)—are supported.
- Groups must be mutually exclusive. Different groups for the same feature should not have common users or computers.
- Group names and member names cannot exceed 64 characters each.
- The number of license tokens reserved for a feature cannot exceed the number of concurrent copies specified in the license code for that feature.
- If you want to exclude all members of a group from using license tokens for a feature, you can specify 0 tokens.
- If the number of license tokens reserved is greater than the number of concurrent copies specified for the feature in the license code, the number of tokens specified in the license code will be used.

Determining the Number of Licenses Available in a File and Their Versions
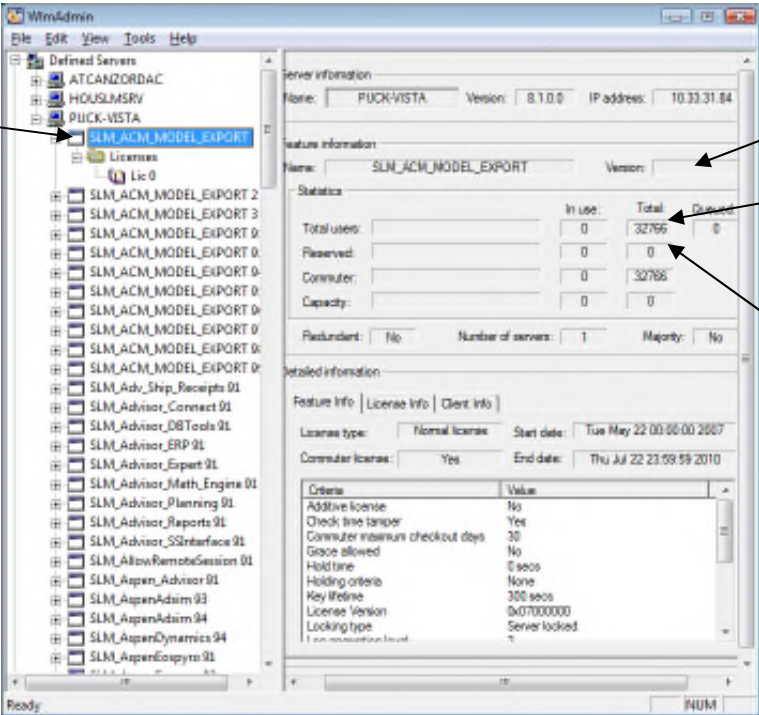
Once the license file has been installed and the SLM server started, open WlmAdmin. Select a specific license by clicking on it. In the right-hand side panel, it will show the total number of licenses available, the name and the version. See the screen captures below.

Case 1: Standard License

Aspen Custom Modeler License

Max. number of users

No license reserved
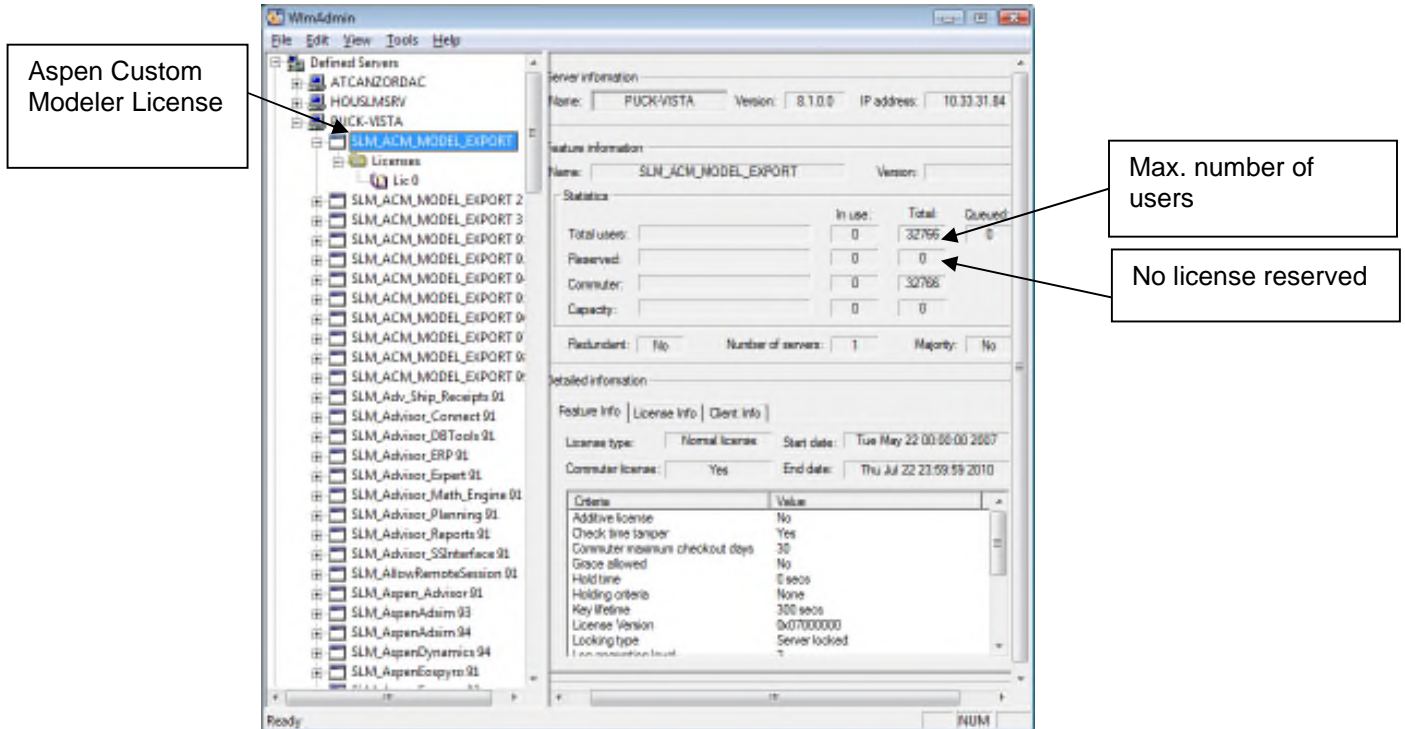
Case 2: Token License

Aspen Custom Modeler License

No version

Max. number of users

Number of users reserved

Max number of tokens

Number of tokens reserved

Number of tokens

8 Troubleshooting SLM Problems

Overview

This chapter is designed to give you answers to some of the common problems encountered when setting up your licensing software. The common problems are grouped into the following sections:

- Network Problems
- Dongle Problems
- Environment Variables
- Common Error Messages

Work through the following checklists if you encounter any problems.

Note: Additional troubleshooting information is available at https://support.aspentech.com.

If you have gone through the checklist and you still have problems, contact your local Technical Support center.

Before contacting Technical Support, make sure that you have checked that your:

- System clock is correct. Your licenses have a start date and end date. Your clock must be correct for the licenses to function.
- SLM is properly installed.
- Licenses are properly installed.

When contacting Technical Support, you will be asked to supply five pieces of information:

1 Product name(s) with which you are having problems (for example, HYSYS).

2 System Configuration:
   o Licensing mode: Standalone, Standard network, or Token network.
   o For Network licensing, whether the application is installed locally or on an application server.

3 An exact description of the error encountered, in other words:

- o What happened?
- o When did the error happen (during installation, startup, when opening a case, and so forth).
- o Most importantly, the specific text or screen shots (preferred) of the error message(s).

> **Note:** The error message is the most important piece of information required to troubleshoot your problem.

4 A copy of your license file.

5 A copy of your configuration information. To get this, start the aspenONE License Manager and click **Locking Info**. The **SLM Locking & Configuration Information** view appears, showing your configuration information. Click **Copy to Clipboard**, and then paste that information from the clipboard to a Notepad or other blank document.

Check your network

Ensure port 5093 is open for UDP.

Ensure the Minimum Transmission Unit (MTU) is set correctly.

- Bandwidth: For the SLM to communicate over the network, you will need to have certain Minimum Transmission Unit (MTU) settings to be able to send and receive messages over the network.
- SLM Server V9-V11 has a dynamic MTU, and requires an MTU of about 700 bytes
- SLM Server 8.5.3 (aspenONE V8.4 through V8.8) requires the MTU to be set at 1432 bytes
- SLM Server 8.4 (aspenONE V8.0 through V8.3) requires the MTU to be set at 7512 bytes

Ensure your ping time is 300ms or less, with 0% loss.

Check the Dongle Attachment

To check the dongle attachment:

1 Check that the dongle is properly attached to the computer.
- o Software License Manager (SLM) dongles are Sentinel Computer ID keys, manufactured by Gemalto. The SLM dongle is installed on the USB port of your computer with an arrow indicating which end is plugged in.

To test if the USB port is working properly:

1 Start the aspenONE License Manager and click **Locking Info**. The **SLM Locking & Configuration Information** view appears, showing your configuration information.

If your dongle is properly attached to the server and the lock code still does not appear, the next step is to make sure that you have installed the Sentinel system drivers used by the server to communicate with the SLM dongle.

To install the Sentinel System Driver:

To install the Sentinel System Driver, follow the procedure described in the "**Sentinel System Driver**" section.

To check that the Sentinel System Driver is installed:

- Using Windows Explorer, browse to the **Sentinel System Driver** folder and verify that the **SetupSysDriver.exe** file exists. The SetupSysDriver.exe is located at:

```
<root>\Program Files (x86)\Common Files\SafeNet
Sentinel\Sentinel System Driver\
```

Check if the license server has been reloaded after installing the licenses on the server

Use WLMAdmin to verify that the license server has been reloaded. Follow the instructions in the "**Checking That the License Server Has Been Properly Initialized**" section on page 36.

Common Error Messages

Message "This feature is node locked but the request for a key came from a computer other than the host running the Sentinel RMS server" usually occurs with "Unable to check out license.":

Meaning	The license for this product or feature was found but the locking information couldn't be authenticated; or, the license file was located but the lock code in the file couldn't match any of the "lock nodes" (security dongle or other hardware containing lock code) available.
Possible Causes	• The SLM dongle or the port is not functioning. • Either the SLM dongle or the lock code in the license file is wrong (or, the lock code and the file are not matched). • The license file was generated for a standalone installation and is being used on a key server computer.

Message "No such feature recognized by server.":

Meaning	License for this product or feature could not be found.
Possible Causes	Either the license file could not be located, or the license file does not contain authorization for the required product or feature. If this is a network installation, this could be confirmed by running WLMAdmin and checking which licenses are available from the key server.

License Server Refuses to Issue Licenses

Check to make sure that the server date and time are correct

If the server platform time and date are set incorrectly, then the license server will start up properly but refuse to issue any licenses, because it is performing TimeTamper checks.

To resolve this issue, make sure that the server date and time are set correctly before attempting to use the license server. To ensure that your date and time are set correctly, check that your time synchronization service is configured correctly. You can use the SLM Profiler to test if the license server is running properly.
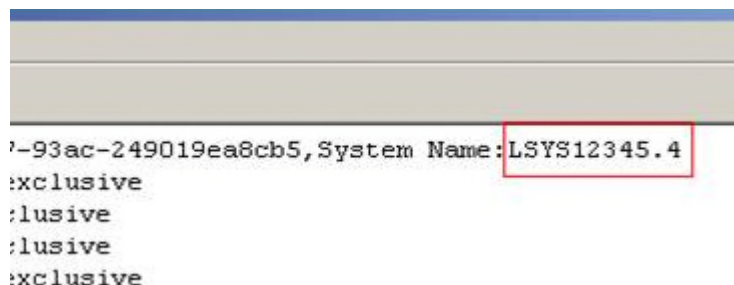
Note: It is not recommended that you change the default settings for your time synchronization service, except for changing the time zone if necessary.

9 Frequently Asked Questions

General SLM

How do I find my System Name?

The easiest way to locate your System Name is to look at the top line of your license file. The license file can be opened with a text editor, like the Windows Notepad. The System Name is the last field in the first line, as outlined in red below, which is followed with the version number (4 in the example below).


```
'-93ac-249019ea8cb5,System Name:LSYS12345.4
:xclusive
:lusive
:lusive
:xclusive
```

Alternately, if you do you not have direct access to the license file on your **network** license server you can obtain your system name by opening the aspenONE SLM License Manager and entering in the name of the license server. The system name will be displayed.

1 Open aspenONE SLM License Manager
2 Enter in the name of the license server and click the refresh button
3 Once the license manager information appears in the program, the system name will be displayed after the word "System"

How do I fix my SLM installation?

Occasionally AspenTech products fail to start because they can't get a license. Possible reasons are:

- SLM is not configured properly.
- Licenses on the license server have changed.
- The Network or license server is very busy.
- The license server has crashed.

Here are some simple steps to follow:

1   Make sure that you are running the latest version of SLM. Aspen SLM *.dll file is located in:

(64bit OS) **<root>\Program Files (x86)\Common Files\Aspentech Shared/strgxi2.dll**

(32bit OS) **<root>\Program Files\Common Files\Aspentech Shared/strgxi2.dll**

Note: The path above may be different for different language versions of the operating system.

2   Make sure the correct SLM is installed. Open a DOS prompt and type:

((64bit OS) **regsvr32 <root>\Program Files (x86)\Common Files\Aspentech Shared/strgxi2.dll**

(32bit OS) **regsvr32 <root>\Program Files\Common Files\Aspentech Shared/strgxi2.dll**

3   Clean up your SLM configuration:

o   Remove your **lshost** environment variable.

o   Remove your **AEATokenmode** environment variable.

o   Remove your **LicenseMode** variable.

o   If you are using a **lshost** file, remove it.

o   Remove all registry entries under:

32-bit OS: **HKEY_LOCAL_MACHINE/Software/AspenTech/SLM/**

64-bit OS (running 64-bit application):

HKEY_LOCAL_MACHINE/Software/AspenTech/SLM/

64-bit OS (running a 32-bit application):

HKEY_LOCAL_MACHINE/Software/WOW6432NODE/AspenTech/SLM/

4   Install the latest SLM configuration using the SLM Configuration Wizard. For more information, see Chapter **6 Configuring SLM**.

Why are the SLM dongle (Sentinel Hardlock) and its lock code missing when I run the Configuration Wizard?

There are two possible solutions to this problem:

•   Check if the Sentinel System Driver exists.

1   On the operating system desktop, open the Add/Remove Programs view by selecting **Control Panel | Add or Remove Programs**.

2   If the Sentinel System Driver exists, remove it.

3   Reinstall the Sentinel System Driver, following the procedure described in the "**Sentinel System Driver**" section.

4   Return to the **Add or Remove** Programs view to check that driver is installed.

If you now run the Configuration Wizard, the SLM dongle is reported as **Sentinel Hardlock**.

- Problem with either the port or the dongle.

  Try installing the dongle and drivers on another computer. If the Configuration Wizard also fails to report the dongle on this computer, you likely need a dongle replacement. In this case, contact your local AspenTech office to arrange for a dongle replacement.

I am trying to install an SLM application using network security. Why am I getting errors?

Make sure that the Sentinel System Driver is installed correctly.

Symptoms

- Running the Configuration Wizard does not show an entry for the SLM dongle. Normally there is a **Sentinel Hardlock** entry.
- Sentinel System Driver is absent in the Add/Remove Programs view (select **Control Panel | Add or Remove Programs**).

Remedy

Install the driver manually from the AspenTech product installation media:

1 Install the Sentinel System Driver following the procedure described in the section, "**Sentinel System Driver**".

2 Check that driver is installed. **Sentinel System Driver** appears in the **Add or Remove Programs** view.

3 If you now run the Configuration Wizard, the SLM parallel dongle is reported as **Sentinel Computer ID**.

Continue with regular troubleshooting if this is not the problem.

Extra digits are added to license file name and it will not work. Why?

When you save an attachment from an email, very often a temporary copy of the file is made in a **temp** directory used by Windows or the email software.

If there is already a copy of the file in this temp directory, it does not overwrite the old one. Instead, it creates a new temp file with a number appended to it.

For example, saving an attachment with file name **lservrcA.SLF** causes a copy of **lservrcA.SLF** to be created in the **temp** directory. If you receive another email with the same license file name in it, when you save the attachment, the license file will save to the **temp** directory as **lservrcA(1).SLF**, and the next time **lservrcA(2).SLF**, and so forth.

Use the **Save As** option to save the file to your hard drive before starting the license file installer.

Where is the Sentinel System Driver installed?

The driver is installed in:

```
C:\ Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel
System Driver
```

If you open the Add/Remove Programs view (select **Control Panel | Add/Remove Programs**), you will see an entry for Sentinel System Driver.

The computer was a server, but now I want to delete its licenses and stop it from being a server. How do I do this?

To remove the server feature on a computer:

1 Remove the dongle connected to the computer.

2 Run the program **loadls.exe** which can be found from

```
C:\ Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel
RMS License Manager\WinNT
```

and click **Remove**.

3 Run **Add/Remove Programs** from the **Control Panel**.

4 Click **Sentinel RMS Server**, and then select to uninstall the program.

5 Run **WLMAdmin** by clicking **WLM Admin** from the aspenONE SLM License Manager. In **WLMAdmin**, try to view the server to verify you are no longer functioning as a server.

I have many standalone dongles. How do I manage the license files?

The easiest way to manage many standalone dongles is to copy the individual license files to a share folder then install the standalone license files using the SLM License File Installer on each user's computer that has the correct dongle attached to the USB port.

Each license file works with only one dongle; however, the SLM License File Installer can detect which dongle is on the back of the user's computer and select the correct license file from the shared folder for use.

Can I switch a standalone SLM dongle between multiple computers?

Yes. AspenTech continues to support the ability to move your standalone dongle from one computer to another and run your licensed software from any computer, so long as the SLM dongle attached. This is standalone dongle interchangeability.

To do this under SLM, simply install the license file locked to the SLM dongle on every computer that will be using the SLM dongle.

If you will be using a pool of standalone dongles, then to ensure interchangeability, the license file for each and every standalone dongle you have will need to be stored on the computer.

When an application starts, SLM will identify the standalone dongle being used and will attempt to find the license file for that SLM dongle. If it does, the application will run. If not, an error will be generated.

Note: It is recommended that the computer be shut down before adding or removing a dongle. The computer can be safely restarted after the dongle is added or removed.

What is the Commuter Option?

The commuter option enables laptop users to check-out the licenses required to run an AspenTech product to a specific computer from a network license server. The licenses expire a set period of time following check-out. The maximum check-out period is 30 calendar days (one month). The licenses can be checked-in to the network license server when the computer is reconnected to the network.

Why do I get the error message "Required Component Missing" when trying to run an AspenTech product?

The Required Component Missing message indicates that some file did not register itself properly during the installation. A likely candidate is the **strgxi2.dll,** which must be installed and registered on each client computer. The default location for the strgxi2.dll file is in:

(64bit OS) **<root>\Program Files (x86)\Common Files\Aspentech Shared**

(32bit OS) **<root>\Program Files\Common Files\Aspentech Shared**

Use a program like regsvr32.exe (found in your AspenTech product program folder) to register the strgxi2.dll on the client computer.

1   Copy **Regsvr32** into the same folder as the **strgxi2.dll**.
2   Go to a DOS prompt.
3   Change the active directory to the **Shared** folder:

(64bit OS) CD **<root>\Program Files (x86)\Common Files\Aspentech Shared**

(32bit OS) CD **<root>\Program Files\Common Files\Aspentech Shared**

4   Run the **regsvr32** program:

   regsvr32 strgxi2.dll

Why is the AspenTech product telling me that I do not have the appropriate licenses to run my product?

Locate your license file and open it in Notepad. Check to see that you are licensed for the options that the case requires on open.

How can I run an AspenTech product locally on the same computer that has the network license?

Follow these steps to use the network license in "local" mode on the user's computer:

1 Install the License Server and license file on the user's computer.

Ensure that the license file is installed in the correct Sentinel RMS Server directory:

```
<Root>\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel
RMS License Manager\WinNT
```

   (**NOT** in the **Hyprotech/Shared** or **AspenTech/Shared** folders).

2 Attach your SLM dongle (if applicable) to the USB port of the computer.

3 Load the license server using the **loadls.exe** tool.

As outlined in the instructions, use the License Tools to check the installation.

   o   Use **WLMAdmin.exe** to check for proper server set up.

   o   Use the Configuration Wizard to check that the SLM dongle and drivers are properly installed.

   Note: If you are using a dongle: Install the Sentinel System Driver following the procedure described in the section, "**Sentinel System Driver**".

4 Install the AspenTech product on the user's computer as per the install instructions.

Ensure that you choose to use network licensing. During the AspenTech product install you will be asked whether you would like to install local license files; choose **NO** to installing local files.

5 Use the SLM Configuration Wizard to set the registry.

6 Open the AspenTech product.

Can I use SLM-enabled products with a Windows/Citrix Terminal Server?

In general, AspenTech applications can be run from a terminal server using a SLM Network License Server on another computer. Depending on your contract terms, you might or might not be able to use a standalone license on Citrix or Windows Terminal Server.

Guidelines for SLM Features

How do I get logging to work properly on my server?

There are two major procedures:

1 Set the **lservopts** environment variable with the **-l** switch as outlined in this document. See "**LServOpts Environment Variable**."

2 Perform a hard reboot of the server. The logging may not set properly without this second step.

3 Make sure that the directory specified for the log file exists.

The logging file must always be checked after the reboot to ensure that it is logging correctly.

How do I set up Group Reservations?

For instructions, see "**Group Reservations**."

If the Reservation file is not working properly, here are some troubleshooting steps:

1 Make sure that SLM can locate group reservation file:

 o Use the default path and file name:

 `C:\Program Files\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT`

 o Make sure that both the file path and name are properly set in the **LSRESERV** environment variable.

2 Make sure that you had reboot the computer after changing your environment variables to ensure that they take effect.

3 Make sure that the correct case is being used for all of the names in use in the file (set up a log file, the correct case as read by SLM will show for all names in the log file).

How can I mask the data in SLM usage logs?

Before sending the SLM logs to AspenTech, you may need to mask confidential data, such as user names or IP addresses, from those files to meet privacy regulations. You can mask user information when sending the logs:

- Automatically, via the Auto Upload Tool

 -or-

- Manually, via email

Note: It is recommended that you use the Auto Upload Tool, since it automates both the masking and log submittal.

You can mask the following information inside SLM log files:

- User name
- Machine name
- IP address

When the sensitive information is masked, the log file transmitted will display user1, user2, and so on, instead of the actual user names. It will display machine1, machine2, and so on, instead of the actual machine names. It will display, for example, IP1.IP2.IP3.IP4 instead of an actual IP address.

To mask data when automatically uploading log files (using the Auto Upload Tool):

1 Open the **SLM ALC Configuration tool**. Select the **Use custom settings** option, and then click **Continue**.

2 On the **Custom Configuration (Step 1 of 2)** screen, in the **Privacy** section, select the **High** option. User information will be converted into masked names to meet privacy regulations. This option will require you to use the same mapping file if you have two or more SLM Servers. This option is the same as the **Scramble** option from prior releases. For example:

   o   User name "John" will be converted to "user1."

   o   Machine name "TestPC1" will converted to "machine1."

   o   IP Address "123.123.123.123" will be converted to "ip1.ip2.ip3.ip4."

3 Select one or a combination of the following for the Auto Upload Tool to scramble:

   o   User Name

   o   Machine Name

   o   IP Address

4 In the **UserMap File** dialog box, browse to a specific location where you want the mapping file stored. This mapping file is not transmitted to AspenTech.

If you have multiple license servers with scrambling turned on, make sure to specify a network location as the map file location. A shared network location can be specified; for example, as

```
\\corpserver\usermaps\usermap.txt
```

The user account under which "Aspen ALC Auto-upload schedule service" is running should have access to this network share.

Notes:
- For more information on using the Auto Upload Tool, refer to the *Auto Upload Tool Installation Guide*.
- The log file transmitted to AspenTech will display user1, machine1 or IP1, IP2, IP3, instead of the actual IDs.

- The usermap file holds the actual user/machine and IP address to the mapped name. The mapping file is never sent to AspenTech. See below for an example of the user mapping file.

```
[USERS-START]
User1:system
User2:watkscott
User3:wcadmin
User4:student81
User5:administrator
User6:mikex
[USERS-END]
[MACHINES-START]
Machine1:IP21DEVCLC99
Machine2:APCTESTVM01
Machine3:CONTROLSRV01
Machine4:9-QELISVR2-VM
Machine5:BWIP21V72
[MACHINES-END]
[IPS-START]
IP1:10
IP2:32
IP3:151
IP4:167
IP5:117
IP6:13
[IPS-END]
```

- The mapping file is self-managed by AUT, and mappings for new user IDs, machine names, and IP addresses are automatically inserted by the tool. AUT reuses the mapping file every time, so that mapping ids remain same between different log files.
- The mapping file can be used with multiple servers. Each SLM server must be set up to read/write to the file residing on a network share.

To mask data when manually uploading log files:

1 Use the **SLMScrambler.exe** tool. You can locate this tool on the AspenTech Support site (https://support.aspentech.com/), attached to Knowledge Base Solution 130280.

USAGE:

```
SLMScrambler -i [SLM log file name] -o [Output file name] [/u]
[/ip] [/m]
```
`/u` scramble user name
`/ip` scramble IP address
`/m` scramble machine name

Examples:

SLMScrambler -i srv1.log -o result.log /u

SLMScrambler -i srv1.log -o result.log /u /ip /m

2 Copy **SLMScramblerMap.txt** (which is also attached to Knowledge Base Solution 130280) to the same folder as **SLMScrambler.exe**. This file is

used to store the mapping of user, machine, and IP address data, and it is not sent to AspenTech.

> **Note:** You do not need to manually edit **SLMScramblerMap.txt**. The tool automatically adds the mapping for any new user or machine into the file. However, make sure to keep this file in the same directory as **SLMScrambler.exe.**

SLM Administrator Tools

My WLMAdmin preferences aren't saving. Why is that?

The WLMAdmin preferences usually write to a file named **WLMAdmin.ini**. If the preferences are not saving, the problem may be that you do not have write privileges to your hard disk drive.

> **Note:** This particular problem occurs if you don't have **Administrator** rights.

I have shut down the AspenTech product and the WLMAdmin tool still states I have licenses checked out. Why?

The WLMAdmin tool needs to be refreshed. In WLMAdmin, in the **Navigation** pane (left side of the view), click the server name. Right-click and select **Refresh** on the Object Inspect menu.

It might take a few moments, since the tool has to interrogate the network. The licenses will not show you as a user of the AspenTech product if you have shut it down and then WLMAdmin is refreshed.

About Tokens

What are SLM tokens?

A token is a licensing model where users pay for aggregated usage rather than product by product. A token can be thought of as a basic unit of currency, like one dollar. Each AspenTech product and its options have a set a number of tokens they require to run. When you start an AspenTech product (and one or more of its options), the number of tokens required is checked out from the SLM network license server, which logs the usage. Additionally, if the client has a fixed maximum number of tokens, a check is made to ensure that the total number of tokens currently checked-out does not exceed that limit. If the limit is exceeded an error is generated and the application or option does not start. The tokens are released when you close the application or option.

The token-based aspenONE Licensing Model gives customers the flexibility to access and use any aspenONE product at precisely the time it is needed. This is especially critical in the dynamic market conditions of the process industries – whether during down economies or in high-growth periods. This enables customers to lower their risk while maximizing the return on their software investment.

If you are interested in licensing a token system for your company, contact your account manager.

Time Tamper Check

While using a standalone license file or commuted license, the license checkout may fail and return an error code 26 – time tamper error.

If this message appears after installing a license with aspenONE V11, then your license may not be initialized properly. In other cases, the server may have found evidence of tampering of the system clock, and it cannot service the request since the license for this feature has been set to be time tamper proof.

How to fix the problem with initializing licenses?

SLM requires that all license keys be initialized before they are used by an application. aspenONE installation automatically does this initialization by executing the command line utility **SLMLicenseInit.exe** from the folder *<Common Files>\AspenTech Shared*.

Once the application is loaded, run the Configuration Wizard until finished. Note that the license initialization may take several minutes once SLMLicenseInit.exe has been replaced.

Why am I still getting the time tamper error after applying the initialization fix?

Your AspenTech product is disabled when your licenses expire or are otherwise invalidated. To prevent users from circumventing the expiry date by changing their system clock, SLM establishes time stamps on your computer system and uses them to detect time tampering. From the aspect of the security system, it has determined that there has been some sort of time tampering on your system.

This can be for valid reasons, which can be avoided.

How can I fix the problem?

Depending on what has changed in your system, sometimes simply reinstalling either the application (standalone systems) or the license server (network systems) will remedy this error.

Often, however, it is necessary for AspenTech to send you a timefix program to clean your computer of remnants of the time stamping.

Instructions for running the Time Fix program on your computer

You will receive the **Time Fix** program file (**timefix.exe**) and a "time fix license." For example, **fixdec7** is a license to do a time fix on December 7.

To clean your computer with this program:

1 Uninstall the AspenTech product or license server.

2 Copy both of the attached files to the *C:* drive of the computer, and then from a DOS prompt, run them as follows:

```
time fix
```

Important: Include a space between the two words.

3 Reinstall the AspenTech product or license server.

Note: This "time fix file" is not a license to use products. Do not confuse this file with your product licenses.

If running this Time Fix does not solve your problem, contact AspenTech and Technical Support will continue troubleshooting.

Important: This "time fix license file" will only function for one day, on the date for which it is set by AspenTech. This date will be in the name. For example, **fixdec7** will only function on December 7.

How can I avoid getting this error in the future?

SLM security incorporates software from SafeNet, Inc.; this includes the time checking. SafeNet considers their time checking technology to be proprietary and as such we are not privy to its workings; however, AspenTech does know about the following at this time:

- Do not perform any manual registry editing, unless you know exactly what the impact will be. It can create a cross-link error which can trigger time-tampering.

- Avoid moving, renaming, or deleting ***.dll** files; some of the persistence information (for example, expiry dates) tracked by the security is contained in such files, and any of these operations could create a time tamper from the aspect of the security.

- Do not change the system clock (you can change the time-zone setting, but not the date or time independently of time zone changes).

Note: If this problem becomes a repeated event, contact AspenTech so we can offer alternate solutions.

I ran timefix.exe. Why did I get the error message "Error getting time from license file."?

The **timefix.exe** program cannot read the time fix license needed to clean your computer of remnants of the time stamping.

To solve this problem

Make sure that:
- The system clock (both time and date) on your computer is correct before running the timefix program.
- The time fix license file does not have an extension to its name (in other words, *.dat), as email programs sometimes will add an extension to the file. Make sure to save the file to disk without an extension and run the program from that disk.

I ran the timefix.exe successfully, but when I run the AspenTech product, I still get the error message 26. Why?

Delete all license files on your computer (search for all files named **lservrc*.***) and then reinstall them.

If you are still getting error 26, contact AspenTech Support for further assistance.

What is the network packet size requirement for Software License Manager (SLM)?

The network packet size requirement for SLM is approximately 700 bytes. This is the amount of data per packet that your network must support in order for license transactions to occur between the SLM Server and the SLM Client. If your network adds additional overhead to the packet size (for example, data encryption), then any additional specific network overhead should be added.

What is the purpose of "no-net" on the list of configured SLM Servers in the SLM Configuration Wizard?

The "no-net" entry is required for commuting to work properly when a license is checked out from non-default bucket using the SLM Commute tool. The "no-net" entry is automatically added to the list of **Configured Servers** in

the SLM Configuration Wizard tool after the license is commuted from a non-default license bucket.